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Nuclein in the Treatment of Pneumonia and Other Infections

HENRY A. FAIRBAIRN, M.D., M.A., Litt.D., F.A.C.P.,

ATTENDING PHYSICIAN TO ST. JOHN'S HOSPITAL; CONSULTING PHYSICIAN TO THE BROOKLYN HOSPITAL, BROOKLYN STATE HOSPITAL, LONG ISLAND COLLEGE HOSPITAL, SWEDISH HOSPITAL, HEBREW ORPHAN ASYLUM AND HOUSE OF ST. GILES THE CRIPPLE; EX-PRESIDENT OF THE MEDICAL SOCIETY, COUNTY OF KINGS, Brooklyn, N. Y.

Since the demonstration by Dr. Victor C. Vaughn that nuclein is a prominent and abundant constituent of the phagocyte, and that it is a powerful germicide, and that the germicidal properties of blood serum are due to nuclein which comes from the polynuclear corpuscles, I have been greatly interested in the subject. At one time, on this basis, I freely employed the leucocyte extract of Hiss with a measure of success.

The demonstration that the subcutaneous administration of nuclein was rapidly followed by an increase in the number of the leucocytes led me to think that by this agency we might raise the protective and combative force of the system in any infection.

Further, the demonstration that nuclein was composed of nucleinic acid combined with albumin bases brought the administration within easy reach of the practitioner. Nucleinic acid solutions are now furnished in sterile, sealed ampules at a very moderate price. The dose is small and it is a rarity for functional derangement to follow its administration subcutaneously. Its effect is to increase the number of leucocytes. VonMayer of Prague reports an average increase of leucocytes of over 75 per cent. The increase appears within 3 hours after administration and lasts 48 hours.

For several years I have used this substance in various septic processes in hospital and private practice, such as pneumonia, tonsillitis, polyarthritis, and endocarditis, as an adjunct to the ordinary methods employed in the treatment of these disorders. I desire to place on record a very uniform success in shortening these conditions and decreasing their violence by this means.

The prompt action in some cases has been startling, and, although by no means an infallible remedy, it has proved in my hands a valuable adjunct to other treatment, restoring the balance on various occasions. The usual dose is 16 minims of 5 per cent.

solution nucleinic acid every 48 hours subcutaneously—every 24 hours in severe cases. Ampules containing this amount can be obtained in the market.

It is necessary to persevere in its use until convalescence is restored. At times it may cause active local irritation, but very rarely, and this is easily dealt with by evaporating lotions.

To sum up: Nuclein is a natural germicide. Its administration increases the number of leucocytes, the origin of nuclein. Its administration is apparently harmless. It is a valuable adjunct to other treatment of infection.

Through the kindness of my associate in St. John's Hospital, Dr. Emory M. Wadsworth, I am able to append some illustrative cases, which have been treated in my hospital service during April, May and June 1922. Extended detail is omitted as this is an exposition for the clinician.

Case No. 36,556.—Male; age, 12 years; sick, three days when admitted to hospital, suffering from marked dyspnoea; temperature, 105, reaching 105 $\frac{3}{5}$; pulse, 130; temperature reaching 105 $\frac{3}{5}$ next evening. Temperature on third and fourth days 104 $\frac{1}{2}$; fifth day, 104; sixth day, 102, reaching normal (98 $\frac{3}{5}$) on the ninth day and remaining there. Patient on admission was delirious and cyanosed; mouth and lips swollen; tongue dry, highly toxic; condition critical.

Diagnosis.—Right apical pneumonia.

Treatment.—Alkalies and supportive treatment, 1 c.c. of 5 per cent. solution of nucleinic acid, given subcutaneously daily.

Patient made an excellent recovery and left the hospital on the twentieth day.

Case No. 36,706.—Male; aged, 23 years; sick, six days when admitted to the hospital. On admission, temperature, 104 $\frac{4}{5}$; pulse, 130; respiration, 32.

Diagnosis.—Broncho-pneumonia at bases of right and left lungs. Here was great depression, spitting of blood with severe cough. Temperature dropped to 101 degrees on the third day, A. M., reaching 98 $\frac{1}{2}$ degrees on the fourth day and remaining there.

Treatment.—1 c.c., 5 per cent. sol. nucleinic acid, and alkalies and other supportive treatment. Patient discharged in good condition on the twentieth day.

Case No. 36,445.—Female; aged, 19 years; sick two days when admitted to the hospital, suffering from follicular tonsillitis, fever and general, severe, systemic disturbance. Temperature, 102 $\frac{3}{5}$;

pulse, 120; respiration, 25. On second day temperature, 100½, and third day temperature normal.

Treatment.—1 c.c., 5 per cent. solution, nucleic acid, subcutaneously on the first and third days. The throat involvement cleared up rapidly, and patient discharged on the third day, recovered.

Case No. 36,509.—Female; aged, 1 year; sick one week when admitted to the hospital. Purulent discharge from both ears; both drums perforated. Tenderness over the mastoid regions, and cervical glands enlarged.

Diagnosis.—Double, purulent, otitis media, and cervical adenitis. Temperature on admission, 100 degrees; on the third day, 102 degrees; on the fourth, 102 4/5; on the fifth, A. M., 99 4/5, P. M., 101 4/5; on the sixth day, P. M., temperature, 103 3/5.

Treatment.—Supportive measures and alkalies. ½ cc. of 5 per cent. solution nucleic acid on the 11th, 12th, 13th, 15th, 17th, 18th, 19th, 20th, 21st, 22nd, 24th, 26th, 28th, 29th, 30th, and the 1st, 2nd, and 3rd days of May. Patient discharged May 5th, entirely recovered.

Case No. 36,701.—Female; aged, 28 years; sick eleven days on admission to the hospital.

Diagnosis.—Broncho-pneumonia. Temperature, 104½; pulse, 140; respiration, 30; sweating, marked weakness.

Treatment.—1 c.c. of 5 per cent. solution of nucleic acid given every twenty-four hours, subcutaneously, for six days.

Temperature dropped to normal on the third day, and patient made a good recovery, and left the hospital on the eleventh day.

Miss A., nurse, sick with suppurative tonsillitis, abscess discharged, and there was a recurrence with marked oedema of the throat. She was given 1 c.c. of a 5 per cent. solution of nucleic acid, subcutaneously, for four doses, in addition to local measures.

Recovery complete and general condition markedly improved, and return to normal was prompt.

Case No. 36,808.—Male; aged, 17 years. Admitted June 5th; began coughing about May 22; sick seven days when admitted to the hospital. Fever, vomiting, dyspnoea, and severe pain in chest.

Temperature, 103, declining two degrees each evening and rising to 102–104 for several days. On the seventh day temperature reaching normal, by crisis, on the eighth day.

Treatment.—1 c.c., 5 per cent. solution of nucleic acid given daily, subcutaneously. Patient now convalescent.

Case No. 36,484.—Male; aged, 34. Admitted to the hospital March 31st. Sick one week on admission; intense occipital and cervical pain. Lethargic and at times cataleptic. Temperature ranging from 101 to 102 degrees. 1 c.c., 5 per cent. solution of nucleic acid given for six days when temperature reached normal.

Patient seemed brighter on the fourth day; much improved on the twentieth day, and has steadily improved; now up and around and convalescent.

Diagnosis: Encephalitic Lethargia.

Case No. 36,658.—Female; age, 47. Sick for one month when admitted to the hospital with arthritis, parenchymatous nephritis, moderate rise of temperature to 101–102 degrees. On the second day after admission began with 1 c.c. of 5 per cent. solution of nucleic acid every day for three days, then every second day. Discharged on the forty-second day in good condition. Seven teeth with abscesses at roots removed on twentieth day.

Case No. 36,605.—Female. Admitted to the hospital on April 23, with double lobar pneumonia; eight months pregnant; temperature on admission, 101, rising to 102 2/5 on second day, and reaching normal on the fourth day, fluctuating until the fifteenth day; then temperature reached normal; patient was discharged.

Treatment.—On second day, 1 c.c., 5 per cent. solution of nucleic acid given every day for seven days, then discontinued. Patient discharged practically well on May 8th. Returned to the hospital on June 4th; delivered, normally, and was discharged June 15th in good condition.

249 McDonough Street.

NOTE:—Several cases practically overwhelmed by infection when brought to the hospital were not benefited by nuclein.

A New Method for Diagnosing Diseases of the Mucosa Lining the Maxillary Antrum of Highmore Technique—New Instruments*

WILLIAM SPIELBERG, M.D.,

New York

Visualization of the maxillary antrum of Highmore for diagnosing diseases of the mucosa lining this sinus, has been attempted by many rhinologists, some of whom have reported their work in literature.

Due, however, to the lack of a proper technique and suitable instruments, the majority have abandoned this method of examination and are relying chiefly on clinical data and X-Ray findings for their diagnosis.

Following extensive experimentation with several types of instruments at our clinic, I succeeded in perfecting a technique and two instruments which make antroscopy or visualization of the maxillary antrum a very easy and simple procedure, operable in the hands of any one who may desire to do it.

The two instruments here presented are:

1. An *Antroscope* or instrument with which to look into an antrum or sinus (Fig. 1).

2. A *Trochar and cannula* for puncturing the antrum (Fig. 2).

The *Antroscope*. In order to traumatise the least possible, it was necessary to make the instrument of the smallest possible diameter. The one here presented is 10½ on the French scale, or a diameter of

3½ mm. The smallest that has been made so far is 12½ French scale or a diameter of 4 mm. The length of the instrument is 105 mm. It gives a very clear, large angle of vision and considerable magnification up to one inch distance. The image is right sided and upright and the object viewed is very easily interpreted. Achromatic lenses are used in the telescope. The weight of the instrument is one ounce. It is straight and uniform, keeping the same diameter in its entire length including the lamp; a very important factor especially when it is desired to pass the instrument through the canula used for puncturing the antrum.

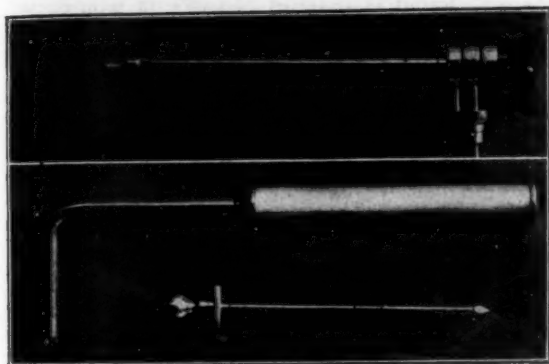
The perfect workmanship embodied in the construction of this instrument for once does away with the very disagreeable feature usually found with this type of instruments of failing to work when one most desires it to.

The *Trochar and cannula* is 90 mm. in length, with an inner diameter of 3½ mm. It is straight and of uniform diameter in its entire length, permitting the antroscope to pass through it into the antrum, after the latter has been punctured. The cannula thus protects the lamp and lens from becoming soiled with blood or pus as the antroscope is being passed into the antrum.

The technique employed in antroscoping the maxillary sinus is as following:

* Read before the Eastern Medical Society, N. Y., March 10, 1922. Demonstrated before Section Laryngology, N. Y. Academy of Medicine, Nov. 23, 1921. Demonstrated before The Clinical Society, Oct. 7, 1921.

From the Oto-Laryngological department of the Beth Israel Hospital, service of Dr. Samuel J. Kopetzky.



The anterior one third of the inferior meatus is very tightly packed with one or two pieces of cotton impregnated with a cocaine adrenalin solution (equal parts of cocaine 10 per cent and adrenalin 1/1,000). The packing is removed after 15 or 20 minutes. The trochar and cannula is then inserted into the inferior meatus hugging the anterior border of the inferior turbinate at its junction with the outer nasal wall. Holding the instrument at an angle of about 30 degrees to the outer nasal wall, the latter is punctured in its anteriormost and highest part by applying moderate pressure with the palm of the right hand against the head of the trochar. If too much resistance is encountered no force should be used, as a slight tap or two with a mallet applied at the head of the trochar will puncture the hardest bony wall.

After the antrum has been punctured, the trochar is withdrawn and the antroscope introduced through the cannula into the antrum and latter inspected.

The puncture thus made is slit like in character and will quickly close on withdrawing the instrument. If desired, the opening can be enlarged by a rocking to and fro motion of the trochar and cannula before it is withdrawn. The antrum can be irrigated through the cannula.

A Combined Illuminator and Retractor for Radical Sinus Operations

With the ordinary means of illumination employed at the present time, and the profuse amount of bleeding in the radical maxillary and frontal sinus operations, it is rather difficult to obtain a good view of the interior of the sinus cavity; the operator is frequently satisfied to remove as much of the diseased tissue as he possibly can see or find by a systematic curettment of all surfaces, leaving the rest to take care of itself.

In order to assure a good and thorough illumination of the interior of the sinus and so make the complete removal of all diseased membrane possible, I have devised an illuminator which can be carried into the sinus cavity and used both for illumination and retraction (see Fig. 3).

The illuminator can be placed in any desired position. It lights up the sinus so perfectly as to make every particle of membrane visible to the eye of the operator and assistant.

Before the instrument can be used to advantage, all bleeding must be stopped. The cavity or sinus is therefor packed with gauze saturated with adrenalin 1-1,000, and left in for 2-3 minutes. The packing is then slowly removed, the illuminator introduced and the antrum curetted under direct illumination.

Especially is this instrument valuable in the terminal stage of the operation, when most of the diseased membrane has been removed, bleeding controlled, but small areas of uncuretted membrane or polypi still remain and can be seen by this method of illumination only.

I wish to express by indebtedness to Dr. Samuel J. Kopetzky and M. R. Wappler of the Wappler Electric Co., N. Y., for many helpful suggestions in the clinical application of these instruments.

211 Henry Street.

Female Vanity and Its Relationship to Carcinoma

JOSEPH B. WEIGHART, M.D.,
New York

That the present day vanity of women could possibly have an injurious effect on their future health or predispose them to a carcinomatous condition seems absurd, but several cases have come under my care recently, which have made me give the matter serious consideration. I have published a number of papers to emphasize the fact that neither the unknown underlying virulence of carcinoma spreads, nor that humanity becomes less resistant, but that the average length of life becoming longer, a greater percentage of people reach a period in which carcinoma develops. With these facts in mind, we have also to consider that the female suffers from carcinoma more than the male. The histological structure of the female genital organs and the occurrence of lesions during functional life may cause carcinoma more frequently than in the male genital organs.

That the cause of the development of carcinoma might be of artificial origin has occurred to me on several occasions, especially in experimenting with rats, mice and guinea pigs.

For my idea of the carcinomatous metabolism, and the recognition of this carcinomatous metabolism in entire families, especially in the very young at a

period before the development of a tumor. I am indebted to the analytical work of the Oefele Laboratory. It is in the recognition of this prodromal period that we will ultimately check the increasing death rate from this disease. In a previous paper I spoke of the treatment of this period by the use of the rare elements, selenium and tellurium.

Recently I have studied a series of cases of young women showing a metabolism identical with the prodromal metabolism of carcinoma described in my previous papers, but giving no history of carcinoma in the family.

Medical literature claims that the continuous use of mineral oil creates an inclination to carcinoma. Mineral oil is soluble in ether. The average daily output of feces contains about $3\frac{1}{2}$ grams of ether soluble material of waste products. A tablespoon of mineral oil corresponds to about 12 grams. If mineral oil were not absorbed at all by the digestive tract, we would expect over 15 grams of ether soluble constituents one or two days after the use of mineral oil, but the effect is just the contrary, for we usually find 3 grams or less, an evidence that not only all the mineral oil has been absorbed, but that additional

ether soluble excretory constituents have re-entered the circulating liquids during the use of mineral oil. This leads to a serious autotoxic condition.

In cases of mice, rats and guinea pigs, the absorbed mineral oil killed the animals and was found as impurities of the deposited fat of the subcutaneous connective tissue, interfering with the perspiratory function of the epidermis. The chlorine and the water excretion of the skin decreases, and is forced by the excessive partition into the urine, and the entire metabolism is similar to the prodromal metabolism of carcinoma as soon as the sulphur oxidation is decreased.

The similarity is seen in a low specific gravity of about 1.013, a normal or increased percentage of chlorine, a decreased percentage of preformed sulphuric acid to about one-third and decrease of the daily total solids of urine far below 70 grams. This similarity to the prodromal metabolism of carcinoma

was also found in a series of cases in women who had made an effort to reduce their weight by the use of fat reducing pills containing thyroidea. The use of these preparations caused a chronic intoxication and illness with tachycardia. They did not state in their histories that they had taken fat reducing medicine, and to account for a high blood pressure, irregular heart and nervous symptoms, made the diagnosis difficult. It became necessary to have a detailed urine analysis with quantitative determination of the physiological constituents made and then the striking similarity to the findings in carcinoma was seen. There was no history of carcinoma in any case, but closer examination revealed the fact that fat reducing medicine containing thyroidea was used. I fear, with this striking similarity, that the continuous use of these medicines may create a basis for a later development of carcinoma with no hereditary predisposition.

A Newer Conception of Chronic Constipation

R. E. T. RHAMES, M.D.,
Boston, Mass.

Chronic constipation and other abnormalities which occur along the digestive tract are perhaps the most prolific source of the many ills we are called upon to treat. The old school considered constipation somewhat lightly, as if of comparatively slight importance, and used laxatives, cathartics, purgative salts and mineral waters, petroleum and other lubricants, as well as mechanical devices and even insoluble indigestible material, calculated to retain moisture in the passage of refuse and give bulk sufficient to produce some irritant action on the canal, in order to stimulate peristalsis. All these efforts succeeded more or less with some patients and were total failures with others. In considering any treatment, we must always remember that primitive man required a long gut, in order to derive the maximum of sustenance from the indifferent alimentary material he crammed into it during the rare gluttonous orgies with which alternated long periods of scanty fare or even famine. This continued for eons of time, until dawning intelligence taught him to make provision for the morrow and to separate the chaff from the wheat. This change for the better, while a material gain, was not without its penalty, for civilized man possesses practically the same anatomy and physiological inheritance as his ancestors, but has outgrown the necessity for a long intestine owing to the rich, readily absorbed and concentrated food available which leaves comparatively little residue so that the mechanical stimulation of bulk fails to affect the unnecessary large surface area of the canal.

The great majority of our chronic ills undoubtedly originate in some slight deviation from the normal in the development of the embryo which give rise in adult life, to pathological modification of functions which may be congenital or acquired, affecting the gastro-intestinal tract and annexa, hence chronic constipation, biliary-liathiasis, intestinal putrefaction, muco-membranous enterocolitis and any of the numerous distressing conditions with which we are familiar, but cannot always be corrected permanently. Exceptionally healthy, well preserved old people, are those who have maintained the perfect endocrine functions of their digestive organs, and it is no exaggeration to say that old age is the simultaneous failure of the correlated interdependent endocrine

glands which regulate metabolism (a pluriglandular endocrinopathy), so that if we are able by prophylactic measures to counteract exhaustion or supplement the depleted natural supply, a healthy life may be prolonged.

Experimentation by Eppinger and Hess have demonstrated that the essentially secretive, glandular, digestive, circulating apparatus, and the entire vegetative system is innervated by:

1. An autonomous system of ganglia.
2. The cranio-pelvic or para-sympathetic ganglia.
3. The true sympathetic ganglia.

The entire gastro-intestinal tract and annexa have not only an elaborate autonomic system, but receive sympathetic innervation affecting the sphincters of the pylorus, cecum, rectum and bladder, the transverse colon and the vascular part of the mesentery, and the entire gastro-intestinal canal, especially through the solar and hypogastric plexus and it is through the activities of this organic nervous system that hormone incursions from glands of internal secretion are carried by the blood and lymph and act as excitants or depressants on distant organs, while others again neutralize toxins circulating in the blood. These activities are brought about in the digestive tract through the autonomic nervous system and it is believed that in this way, their secretory and excreting organs are modified. The digestive apparatus moreover, receives stimulation from the cranial para-sympathetic or vagus affecting the oesophagus, stomach, liver, pancreas, spleen and small intestine, while the pelvic-para-sympathetic control the bladder and colon.

These facts well understood should materially help us in the attempt to treat variations from the normal state of health which affect digestion and elimination of waste by-products. It is a biological fact that man like other animals, is the result of a series of reactions between the fertilized ovum and its environment and that the endocrine glands, and their hormones from the very beginning of life control its vegetative or involuntary metabolic processes, and that the specific endocrine influence on every individual is manifested by growth, development, form and psychic function. Endocrinopathies will form one of the most important studies in the future.

(Hart-Ztschr.: Ang. Anat. 1920). From the foregoing it would appear, therefore, that treatment of any diorganization should be directed towards the correction of such functions as require stimulating or controlling by therapeutic, mechanical and endocrine gland therapy, in keeping with the remedial measures already provided for naturally within the economy, when through stress they are unable to perform of task unaided. Medicine has always in a somewhat empirical way endeavored to do this, and while we may yet have only a faint glimmering of the truth, it is certain that there has been a distinct advance made in recent years thanks to laboratory research work.

With these considerations in mind, therefore, it would appear rational to endeavor to correct irregularities in individuals and in families constitutionally ill balanced and traceable to some embryonic disturbance in the endocrine secreting functions, somewhat on the following lines.

In chronic constipation and digestive disturbances, we should try to prevent formation of hard stools by the administration of agar-agar in very fine division so as to offer a large lubricating surface, insure segmentation of the fecal matter and prevent too rapid dehydration of undigested residual matter, which has not yet reached the stage known as feces.

Agar-agar cultures of lactic ferments are said to liberate free lactic acid within the intestine and in this way inhibit over proliferation of colon bacillus. Whether or not this be the case, lactic ferments are distinctly protolytic, hence they assist in the conversion of proteids into amido-acids which are rapidly absorbed, thus removing a source of food supply to intestinal bacteria and in turn, preventing formation of toxic products of undesirable intestinal fermentation. Lactic ferments, therefore, are a desirable addition to agar-agar, and when this is still further supplemented by a synthetic therapeutic agent such as phenol-phthalein which is only slowly liberated from the agar-agar and has proved harmless and effective in stimulating peristalsis through the autonomous ganglionic centers of the entire gastro-intestinal canal, we have a trio which will in the majority of cases give satisfaction in the treatment of constipation or where a gentle laxative is desirable until the natural functions are permanently re-established. Constipation, however, is not unfrequently less simple to deal with and is often complicated by some disturbance affecting the endocrine system and especially that great gland, the liver, the bile-forming apparatus. According to Heux the bile salts (cholates) stimulate peristalsis or contractions of the smooth muscular fibres of the intestinal through Auerbach's plexus. The same applies to all the gastro-intestinal secreting glands, liver, pancreas and annexa innervated through the vegetative or organic nervous system. Furthermore, through partial inhibition by the para sympathetic vagus, the sphincters of the cecum, the pylorus and the anus are relaxed.

Bile salts administered by mouth besides contributing to the assimilation of fats, supplement the diminished natural supply from the liver and excite biliary activity in a most remarkable way, hence they have a distinct field of usefulness in the general treatment of chronic constipation and muco-membranous enterocolitis, besides having distinctly regenerative properties on depressed villi rendered atonic and ischemic from pressure of intestinal debris; from kinks, and long stasis. The cholates also cleanse the mucous membrane of the intestinal walls. We must not forget the role of the pancreas with its multiple and im-

portant functions. Like other endocrine glands, it is apt to be congenitally insufficiently active or to perform its work in a perfunctory manner under stress, hence pancreatin will be a distinct advantage where we cannot successfully induce nature to work in an entirely satisfactory manner. When the pancreas is at fault, we find unsaponified fats and undigested muscular fibres in the stools.

We have already shown that the bile salts when administered by the mouth, not only supplement the natural flow of bile, but stimulate the liver to elaborate more. It is found to be the same with the pancreas. The administration of pancreatin not only stimulates the incretions and excretions of the pancreas but in some degree, at least, it supplements that excreted from the pancreatic duct since it assists in the saponification of fats, besides reacting on the secretions of the duodenum and elaborating the intestinal enterokinase; furthermore, we know that the internal secretions of the islands of Langerhaus through their hormones, control the liberation of glycogen and there are perhaps other attributes. For the present the consensus of opinion is that we must use the extract of the entire gland (pancreatin) until endocrinology has made further advances and chemistry has isolated the pure active principles and determined their specific activities by rigid physiological tests.

General practitioners probably do not attach sufficient importance to the very common clinical syndrome, viz.: a feeling of dullness, want of "pep" with a dilated ascending colon loaded with fermenting material accumulated and retained by some kink in the colon under tension from gas pressure or from paralysis of function due to pressure, causing a persistent toxemia with indifferent circulation in the vascular mesentery. Such phenomena may or may not be accompanied by marked distress or even any symptoms sufficiently urgent to bring the patient to the office; nevertheless, occasionally we find a history of symptoms of neurasthenia, full headaches, giddiness, so-called autointoxication and other symptoms of alimentary anaphylaxis.

In such cases, hydroabdominal (massage of the abdomen while the patient is lying down and slowly receiving an alkaline enema) is permissible to relieve the immediate condition, after which the constipation and the regular cleansing of the entire gastro-intestinal tract including the dilated ascending colon, can be best controlled by administering one or other of the combinations suggested.

289 Dudley Street, Roxbury.

Chemical Investigations of the Central Nervous System Under Normal and Pathologic Conditions

Koch reports result of chemical analysis of central nervous system in two cases of uncomplicated general paralysis. Investigation shows lipoid degeneration, where the water and water-soluble substances have increased at the expense of the lipoids, especially the phosphatids. General paralysis differs from dementia praecox, in that the destructive changes in the former affect several constituents, while in dementia praecox there is unmistakable decrease in the nonprotein neutral sulphur fraction in both the gray and the white matter of the brain, though the other constituents appeared practically normal. The cerebrum in these general paralytic cases shows perhaps the most consistent change in the different chemical groups, especially in the relative proportion of the lipoids to the extractives. The cortex shows a greater percentage of variation from normal than the corpus callosum; the cerebellum and spinal cord show less changes than the cortex but more pronounced than the corpus callosum.

(Arch. Neur. and Psych., April, 1922).

Willis's chords, circle, etc., are named for Thomas Willis (1621-1675), English physician and anatomist.—(Med. Facts.)

A Review of Insanity for the General Practitioner*

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The great increase of insanity and kindred diseases in the last few years makes a general review of the subject at this time particularly appropriate and important. A physiological, psychological and medical discussion has to do for the most part with such abstract matters as reason, mental attitude, memory, behavior, feelings, intelligence, imagination, etc., before a diagnosis can be established. Distinction also must be made between functional and unreal or imaginary disorders. We must not confound mental defectives.

Names have been applied to the general grouping of insane mental entities; and these conditions for the most part can be separately placed under one of these headings, according to the symptoms presented by the patient. Some of the terms frequently used are: paranoia, paresis, dementia-precox, manic-depressive insanity, senile dementia, exhaustion, traumatic and intoxication psychoses.

Paranoia

The term paranoia comes from two Greek words meaning "thinking" or "reasoning," alongside of or next to the generally accepted way. This form of insanity is characterized by the delusions present, often called delusional insanity. Many great inventors, leaders of people, and originators of religious sects, are classified in this group. The delusions are so firmly fixed in the patient's mind, that they try to prove them. They believe their whole line of talk and often try to present what to them seem very logical arguments, in order to make others think the same way. They are frequently offended if anyone disagrees with them. In this form of psychosis, the memory often remains intact for a long time, and through the practice of continually associating figures, dates and other events with the delusions, an expertness in detail, far superior to the average is developed. In well (developed) cases, no regard for law or order will prevent the patient from enforcing pet ideas upon an unwilling public. Hence "cranks," religious fanatics, radicals may be grouped into this category. At times, clever paranoids succeed in hiding their delusions in a very cunning way.

These patients become suspicious of what others say or do against their persons or ideas. When two people are talking together, they may think a conspiracy is forming to injure them, and either openly resent the act or secretly develop a new antipathy toward those concerned.

It is often very difficult to bring out the delusions in such cases. Conceive for a moment such a case of distorted views, *firmly believed*, added to a productive imagination, boiled up with time and irritation, meeting perhaps with physical or mental resistance, with neither law or order as a barrier; and you have a definite picture of how and why many an outrage is committed.

A secret delusion of a paranoid against a supposed enemy may cause a murder with no apparently justifiable excuse.

Reciprocal Insanity

One type of paranoia, called reciprocal insanity, (or Folie Doux) is a form of mental aberration in which one person through continued argument, proving of delusions and acting on their mental stimula-

tion, influences a second individual to a certain reciprocal feeling. In time the second person may be just as deluded as the first, and there are many cases where the second person's delusional state of mind is more abnormal than the first. For example, granted a paranoiac has a delusion that he is Napoleon; that he will conquer the world. He succeeds in convincing a number of people of his ability and one or two individuals with whom he lives may become so engrossed at first in his ideas, and then obsessed, that they will go about expounding their delusions even more than the original man, and sincerely believe all they are saying.

Dementia Precox

Those cases grouped as dementia precox are very different. As the work implies, the psychosis starts usually in the earlier part of life. Occasional cases develop at a later age. The early history of these cases frequently is that as a child, the behavior of the patient was different than the other children of the same family. Either the child preferred to stay at home alone, rather than play with the others, or he read constantly, or worked or moped; or was not so clever at school, or was the best in the class; or he was unruly; or dressed more gaudily or more shabbily; or was always inclined to pick a fight with the other children, or in some other way stand out as abnormal and different. In many cases, the first thing to be noticed is that the patient has what is called a "shut in" personality. He has not many friends, and prefers solitude. One group of dementia precox cases talk and behave in quite a logical way. Many delusions are presented but these differ from genuine paranoia in the emotional disintegration. That is with a serious or even sad stream of thought the patient may laugh in a silly manner. Such delusions are spoken of as superficial, and do not imprint themselves so fervently upon the patient's mind, and it is easy to appreciate why variations in the delusions are so common. Many of these cases seem to give prominence to abnormal sexual ideas, either expressed in words or actions, or hidden from public view.

The paranoid dementia precox cases frequently talk of external forces, electrical influences, magic powers, hypnotism, etc. These cases are usually incurable, just as are the genuine paranoids; but the patient becomes more negativistic, and more foolish and much more quickly demented than genuine paranoids.

Another group of dementia precox commonly met with is the catatonic form. The flight of ideas does not run so consecutively in these cases as in the previous form. The mentality seems more seriously impaired, and the disassociation of ideas is more marked. Distractability is especially common. In some instances catatonic phenomena develop, and in a few the catatonia becomes so marked that the patient can be placed in an awkward statuesque position, which he holds for hours. The prognosis in the catatonic cases is much better than in the paranoid type. Facial grimaces, eccentric movements of arms and hands, and disassociation of the emotions, are, like the flow of words, proof of the mental revolution.

The mental actions of a dementia precox have often been compared to a young child, viz.: the silly

*Read at the East New York Medical Society, January, 1922.

laughter, the lack of attention, the desire to draw attention to its own activities, the playfulness, the superficiality of the emotional sphere, negativism, etc. A good example is a child of three or four years, who refuses to obey a simple parental command, and lies on the floor and cries, despite the activities of an irate father.

Manic Depressive

Manic depressive insanity is, as the name implies, a rather complicated condition. Either wild exultation or marked depression is the paramount picture in a severe case. Any degree of this mental upset may exist from what appears to be a mere persistent attack of the blues, from which the patient does not seem to recover in a few days, to a state of deep unhappiness, of self accusation, of suicidal tendencies. Thoughts of having done a grievous wrong, and prayers for deliverance of the terrible punishment may become an obsession. Hallucinations and delusions are the rule. In the manic type, all stages from a mild, persistent euphoria to a wild mania may exist. Patients require great restraint, and at times collapse and die from exhaustion.

There are several points which assist in the diagnosis. First, heredity is an important factor. Manic-depressive is the most hereditary of all types of insanity. Then we find the hallucinations and delusions, which come so early, and finally, the speedy recovery. The prognosis for a cure of the attack is excellent, although recurrences are the rule. A mania may be followed by a depression or a mania, or by a healthy mental period and then a depression or a mania. Succeeding attacks are usually worse than the original one. Circular insanity is a form of manic-depressive psychosis in which the depression and mania alternate regularly without any normal periods.

Attacks are most likely to follow severe mental strains, such as the death of a close relative, a serious accident, a business calamity, or even a confinement. Many cases of puerperal insanity fit into this category. In the *New York Medical Journal*, May 23, 1914, the writer presented a paper entitled: "A New Psychosis." This may come under the same heading.

Paresis, Dementia Paralytica or Softening of the Brain

This condition is due to syphilis. The spirochete can be found in the cerebral tissue. These cases often develop so gradually that nothing is noticed by the family or friends until quite late in the development of the ailment. A history of syphilis, with tremors of hands, tongue or speech, failing memory, unequal or irregular pupils which may not accommodate to light are symptoms helping to classify this psychosis. Emotional instability and physical weakness soon follow with the other signs of syphilis, as positive Wassermann in blood or spinal fluid, increased cell count in the spinal fluid, a characteristic colloidal gold curve, etc. One peculiar way in which many of these cases go is that suddenly the patient whom no one thought ill, will commit an act out of proportion to any reason, such as buying 50 suits of underwear or several sets of furniture, or give some preposterous order for goods or even attempt to carry out an unheard of feat, such as jumping from a high bridge; or expose himself indecently. All paretics are incurable, as there is destruction of brain substance almost from the start. Death often comes in a very few years from intercurrent disease, due to the low resistance of the patient. Some cases improve for a time under proper hygiene and heavy

antisymphilitic treatment, only to break down again. They usually end with marked deterioration, as mental and physical derelicts. A so-called latent specific infection of the brain may be present for a number of years, and only develop into a typical paresis after a serious physical or mental trauma. In well marked cases of paresis, delusions and hallucinations may abound, in addition to other symptoms.

Toxic or Infectious Psychosis

Such terms as toxic or infectious psychosis follow acute infectious diseases, and usually clear up soon after the system has rid itself of the infection. Most of these cases the writer has encountered, have started much like a delirium from which the patient does not speedily recover. They become wild and unmanageable and act like the maniacs, before described. A smaller number begin by refusing food; they lie about listlessly and gradually go into a profound depression, wishing for death, also akin to the depressed types. These were quite common after the influenza epidemic. Were it not for the etiology of a definite infectious disease, with its symptoms, the classification might be different. Hallucinations and delusions are profuse in this type of insanity.

Exhaustion Psychosis

These follow a long continued exhaustion from whatever cause. The etiology is the only real difference from manic-depressive, although most of these cases are depressed and confused. Physical signs of an exhaustion usually accommodate the mental condition. Hallucinations are usually very prominent.

Traumatic Psychosis

This is the same condition after a sufficient trauma. Hallucinations are not so plentiful as in the exhaustion type but the delusions are more pronounced.

Senile Dementia

This is a name applied to a form of insanity occurring in old age. It may start with a low muttering of words, associated or merely a repetition. Mental deterioration is very rapid. Hallucinations and delusions with marked failing of the mental faculties, added to the signs and tremors of old age, suffice to make the diagnosis.

The author has tried to write many volumes into a twenty-minute paper, so that a synopsis of the most flagrant psychoses may be readily reviewed. The exact causes, the mental conflicts and personality studies are too much for a concise a resumé.

In conclusion, the author advises that once a psychosis is well established, the family physician should do his utmost to see that the patient is placed in the hands of a competent specialist, if he desires to keep the family among his clientele. The delusions of these patients and the antipathy to those who try to correct them (as physical restraint, etc.), added to the cunning devices of a psychotic soon win the sympathy of the dear ones, and cause the ill feeling of the family to the physician in the case. It is therefore highly preferable to retain the family confidence even though they are emotionally turned against the specialist who is not particularly anxious to keep the whole family as his patients.

CASE 1. CATATONIC PRECOX. (To show recovery.)

H. R. referred by Dr. L. Harris.

This boy of eleven was always the brightest in his class. Two days before he was examined for no apparent reason he began to talk in a confused manner. His words were rather thick and poorly enunciated. His sentences were wild and disconnected. He spoke of being in love with everybody. He would kiss and act hyperaffectionately toward not only his fam-

ily but to all those with whom he came in contact. He was afraid to go out into the street alone. He had a few catatonic phenomena as when his arm was extended he would hold it in that position. He had marked negativistic traits and could only be kept in bed by restraint. He soiled the bed and his clothing. At one time he climbed to the roof in his bed clothes and let his feet hang over the edge. Only strong temptation with candy made him come down and not jump off as he was wont to do. When asked to come away from the edge he would look at us and laugh in a silly manner. He had to be tube-fed because he refused food. He slowly recovered in five months and is as well as ever to-day.

CASE 2. PARANOID PRECOX.
(To show non-recovery.)

S. F. referred by Dr. A. Koplowitz.

This boy with dementia precox was 18 years old with a bad family history. His maternal grand-parents were first cousins. His mother was said to be a mental defective. A half sister of his father (from the same grand-father) was insane. A paternal aunt was also a defective. There were other first cousins insane and defectives.

He entered school at eight years and was then told he could not commit to memory. At sixteen he left school from the 6-A grade. He is bashful, cannot commit to memory, judgment very poor, cannot concentrate, gluttonous appetite, cries from no cause, will sit for hours masturbating, etc. He explains his condition on his heredity. Says he was not brought up properly. Says his mother was at fault for his plight. He seems to worry very much over his sad mental state. He was first seen in 1912 and about twice a year since with the same condition and some of his symptoms more exaggerated. This is especially true of his emotional state. Smilingly he will talk of his "terrible mental confusion". He talks very much about sexual topics, lost manhood, venereal diseases, etc.

CASE 3. MANIC DEPRESSIVE (Depressed type).
(To show heredity.)

Mrs. A. B. referred by Dr. Brody.

This lady was thirty-five years of age, the wife of a very successful business man, who was at her beck and call to grant almost every wish she could express. She was woefully depressed. This condition had come on gradually for eight weeks and seemed to be getting worse. She could not sleep and large doses of narcotics had little effect upon her. Most of her time was spent in crying and as she said, trying to fight off the terrible condition. She had full insight into her condition. She cared little about her dress and refused to eat and hoped only for death to end it all.

Her brother of nineteen committed suicide. Her father died at the State Hospital on Ward's Island. One sister is very nervous. This was a second attack. The first one lasted only a few weeks and was not as bad as this one.

CASE 4. MANIC-DEPRESSIVE (Depressed Type).
(To show recurrence.)

M. K. referred by Dr. Lerner.

This young lady of twenty-seven years states that since three months she has become steadily more self conscious. Has horrible dreams each night and cannot sleep on this account. Does not want to meet people because she does not want them to know of her condition. Asks if she will not get well, if not she will end it all. Says she did not do well at school although she skipped several classes. This was her second attack. The previous attack was two and one-half years before and lasted for three months.

CASE 5. PARESIS.
(To show apparent sudden onset.)

A. L. referred by Dr. Louis Harris.

This was a young married man who was always somewhat nervous. He went out to buy some furniture and bought three dining room sets, three victrolas, four big parlor lamps, two pianos and many other things. He objected very much when his wife refused to accept these goods and drew all of his life's savings to pay the bills.

On examination his speech was tremulous, his pupils did not react to light and were very irregular in out-line. His knee-jerks were absent, and a marked Romberg was present. His blood Wassermann was negative but his spinal fluid showed fifty cells to the cubic millimeter and a four plus Wassermann. His memory was very much impaired. He gave a history of specific infection ten years before this time.

CASE 6. MANIC DEPRESSIVE (Manic type).
(To show recovery.)

S. E., referred by Dr. Oginsz.

This young business man came home one evening from his office with a rambling talk that he had syphilis and that he would be punished for inflicting his ailment upon an innocent girl.

Paced the floor of his home in an aimless manner throwing his arms about in all sorts of ways. Claimed he had a terrible headache. If anyone went near him he would jump upon the near-intruder with vengeance. He cursed everyone with whom he came into contact. His pupils were wildly dilated, his face was flushed, and large beads of perspiration stood out on his forehead. For fear that he would harm someone or himself he was restrained. After a very short time he entirely recovered. At least four other members of the same family came under the writer's professional care for similar states.

This patient has been seen at least twice a year since the first attack and has remained quite well.

CASE 7. (PARANOID-DEMENTIA-PRECOX)
(Delusions of sight, though blind.)

M. B. referred by Dr. Sumner.

This man of thirty-eight is totally blind. For two months previous to this examination he has been developing delusions about what he called the small stores in his neighborhood. He would say he was "wise" to what was going on in these places. He hears voices tell him that if he does not keep his mouth shut he will get "his". He can tell from the foot-steps which he hears that conspiracies are being hatched in the places. He says his eyes are being tested with a light. These people can put him to sleep or wake him up as they will. They pull his head first to one side and then another. Thinks someone has done some "magic" to him. Someone has hypnotized him, etc.

CASE 8. PARANOIA.

(To show duration without marked deterioration.)

M. L. referred by Dr. E. H. Bartley.

This case was seen originally about ten years ago. The patient, a well educated woman of forty, at the first examination showed nothing abnormal except seemed to be very bitter against her husband and her brother and one of her sisters. She said her father for some unknown reason was beginning to "side" in with her "arch enemies". As she expressed it she thought they were trying to get rid of her. She was never treated the same as the other children. As time went on she developed these ideas of persecution. Anyone who talked to any of her supposed enemies were planning to harm her in some way. Soon thoughts of conspiracy to hurt her and ideas of self-defense were awakened. She was furious to think that she was to suffer from these persons who hated her so. There were no hallucinations present. Her memory was much better than the average individual's memory. The reason being that in order to prove these conspiracies and evil activities of her "enemies" she wrote down dates, time and place, even hours and minutes, of certain happenings. Many of these details were really abnormal. At one of my visits, three years after the first visit, I was surprised to have her confront me with the various numbers on my automobiles.

She would stop at nothing to win a point and do such acts as marry or divorce a man to "get even". She would drag anybody into court and on the stand tell the most bare-faced untruths in the boldest fashion. She often engaged gangsters of the under-world to beat up her would-be antagonists. Although we tried to commit her on various occasions she could always convince a lay judge or jury that she ought to be at liberty. Now, after ten years have elapsed, the *Eagle* prints a story that this same patient was arrested for throwing something at a neighbor and causing a general disturbance.

CASE 9. (TOXIC OR INFECTION PSYCHOSIS).
(To show similarity to manic depressive.)

Mrs. M. G. referred by Dr. Kranzer.

This patient had a typical influenza fifteen weeks before this examination. Instead of recovering she slowly began to care less and less for her surroundings; cried most of the time; refused food; and wished for death. She would say "Look at me, it's all over now. I hope I will not have to suffer long before the end" etc. She had bed sores and would lie in the one position paying no attention to anyone except bemoaning her horrible death. She was removed to the Holy Family Hospital and after five weeks is quite well again. Her temperature varied from 100° to 102½° F. She had some bronchial rales and a cough with expectoration. There were also a laryngitis and a pharyngitis present.

It is four weeks since her discharge and she is physically and mentally quite normal again.

CASE 10. (TRAUMATIC PSYCHOSIS).
(To show similarity to manic depressive.)

A. Z. referred by Dr. David Goldstein.

This young man was hit by an automobile while attending to his business. He was quite normal at the time. He suffered a severe concussion and a fractured leg. While convalescing he developed hallucinations of sight and hearing. The room would go around. He would ask what that chair or table was doing on

his bed. He would hear dogs barking and see and hear imaginary people talk to him. After four weeks he entirely recovered.

CASELL. PARESIS.

(To show a latent specific mental condition aroused by traumatism.)

R. M. referred by Dr. David Goldstein.

A boy on roller skates was hit by an automobile and only a very slight scalp wound resulted from the accident. When he went back to school a short time after the accident it was noticed that he did not do as well as before he was struck. His family noted peculiar actions on the boy's part at home. The examination revealed irregular fixed pupils. Loss of knee-jerks. A marked Romberg. He could not remember simple test

phrases as "She sells sea-shells." Or a "Sea-sick sailor sank a silver ship," etc. His memory for recent events as what he had at his last meal to eat was very defective. His school teachers noticed a marked change in the boy's behavior and memory and helped to definitely establish this point. His voice had a distinct tremor and his hand writing was very "shaky". Despite the age although this boy was examined for a legal trial by two other specialists all made the same diagnosis. The blood and spinal fluid Wassermann's were negative. The colloidal-gold was strongly indicative of syphilis and the cell-count showed forty cells in the spinal fluid.

502 Washington Avenue.

Fulguration in Gonorrheal Folliculitis

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We constantly read in current literature that the treatment of gonorrhea is unsatisfactory and the fact that there is a multiplicity of drugs recommended, and more are being sought after, is proof that the treatment is unsatisfactory. I have felt for many years that there was no acute, infectious disease, the treatment of which was so satisfactory as it is in the case of acute gonorrhea if begun within the first few hours. It is perfectly possible for every one to get such early treatment if they can be made to realize the importance of time as an element of treatment.

The use of the new silver preparations where the silver is combined with albumin in some form, if the disease was seen within the first twenty-four hours of the outbreak, in the vast majority of cases it could be stopped, that is, it could be kept from advancing any deeper into the canal, and also from penetrating any further into the tissues. This is also true in primary cases as in those who had multiple attacks. The limitations of these silver salts is that, while the disease can be controlled and can be kept from going any deeper if rightly managed, the disease shows a proneness to relapse, if treatment is intermitted; nevertheless the injections of these silver salts can be kept up indefinitely without any harm to the mucous membrane.

There are other means which can be employed after the case has reached the point, while under treatment, in which nothing but epithelial cells can be found, except possibly a few pus cells, here and there, and absolutely no gonococci. We know that in a large proportion of these cases if the disease is allowed to go without treatment for forty-eight hours, or at the outside four days, there will be a relapse, and the reason is that one or more follicles within a short distance of the meatus are infected.

The drug does not penetrate the deep part of these follicles. That is the sole reason the case is not cured at the time. I have often tried to find these follicles by the use of the meatoscope, or the urethroscope, but generally with ill success, unless the infected follicles were very close to the meatus. Some of these primary cases can be kept at the point where there is no inflammation, by daily injections, or by injections used every other day on the part of the patient, or even twice a week, and in these cases there will be no appearance of the disease.

Yet, if they neglect the use of this treatment a relapse will occur. I have known such cases to last as long as six months, and I have tried various means to end them more quickly.

One method which has been successful is by daily hot irrigations of one of these silver salts, starting at a temperature of 115-120° F., and gradually increasing up to 130° for a period of three weeks or so, after which there will be a complete disappearance of the tendency to relapse, and evidently a cure of the case. Some of these cases, however, have relapsed just the same.

The first case in which I attempted fulguration was that of a physician who came to me after having attempted to treat himself for four months by using anterior injections of argyrol. During that time he found he had the very condition just described. No posterior urethritis had developed during that time, but if he stopped injecting it would relapse. I suggested the daily irrigations of hot solutions. At the end of a week nothing but epithelial cells could be seen, with no gonococci, although the day he came there was a marked purulent discharge containing numerous gonococci. But in view of the length of time that he had a discharge, I kept up the daily irrigations for two weeks longer before allowing him to intermit treatment for even a day. Stopping for forty-eight hours, there was a relapse of the symptoms so that he was exactly in the condition the day he came. He resumed hot irrigation and condition showed nothing but epithelial cells, injected the urethral canal with the silver salt and had him hold it for ten minutes.

Then we examined his urethral canal with the Brown Buerger cysto-urethroscope, carrying the window as far down as possible without running the point of the instrument into the posterior urethra at all. The reason for using the preliminary injection was to prevent the possibility of carrying infectious material down the canal from the infected follicles. In this case I examined the anterior four inches of the urethral canal, the entire internal surface, the floor, side and roof. Curiously enough in this case I found no follicles on the floor of the canal but in the roof found six wide mouthed follicles, with congested rim, beginning at about three and one half inches and running forward at short distances apart.

At the first sitting each follicle was fulgurated. For a week he used his ordinary injection at home once a day, and on the second examination a change had taken place in several of the follicles. Although they seemed to be wider open they had lost the inflammatory edges; some of them were wider open than before, but there was no pus. Nevertheless, I fulgurated each one again and repeated this a week later. Then the patient went for a week without

treatment. That seemed to end the condition and he continued well since that time.

Since then I have done this fulguration at an earlier stage in a large number of cases where they have shown a tendency to relapse. In the majority I have found that infected follicles occur more frequently in the roof of the canal, and very seldom have any been found on the floor. These were showing this tendency to relapse in which follicles could be seen. I have examined such cases more than once and after explaining to the patient the probable reason for his constant relapse, and the importance of treating himself by keeping up the daily injections, these cases ceased relapsing in a shorter time than those in which infected follicles were found.

This method of fulguration is of great value in those chronic cases of folliculitis in which is a beaded condition of the urethral canal. After fulguration, this beaded condition disappears and the case clears satisfactorily.

In doing this fulguration my method is to bare the fulguration wire for one quarter to three eighths of an inch of its point, bending the wire at an obtuse angle at the point, so that with the instrument in position, in pushing forward the wire, it comes into view and will readily touch the mucous membrane. Then it is only necessary to see at about what point the wire will hit the mucous membrane, using the small lever to guide the wire and place the window of the instrument so that when the wire was advanced the point would enter the follicle.

During the examination and during the treatment an irrigator is attached to the instrument, so that there is a constant stream of cold boric acid solution running, and in turning on the electric current it is left on for a second or so. If the water is not running there is a sensation of burning. I always begin at the deepest follicle, and work forward. In some cases there are only two follicles, and in some as many as twelve.

Examination and treatment is made once a week; in the acute cases the patient uses his injection of silver once or twice daily at home during the interval. I do not recall having more than three applications of the fulgurations in any one of the acute cases. In some chronic cases I have made as high as six applications.

320 Second Avenue.

Alcohol and Syphilis as Causes of Mental Disease Under Prohibition

Dr. Kirby has made a review of the data obtained from Bellevue and Long Island College Hospitals from which the following conclusions can be drawn:

Alcoholism has declined perceptibly in the general population during recent years, the beginning of the decline antedating by some years the restrictions due to war conditions and the passage of the federal prohibition amendment.

Coincident with this decline there has occurred a remarkable fall in the number of alcoholic psychoses, the lowest figure on record having been reached in 1920.

During the first period of the World War there was noticeable recrudescence in both alcoholism and alcoholic mental disturbances, but after the United States entered the war in 1917 there was again a sharp fall which so far as alcoholic psychoses are concerned has not been again interrupted.

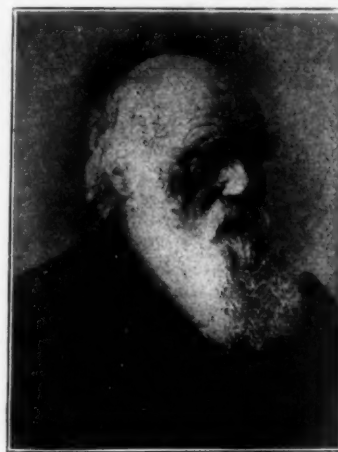
From the standpoint of mental hygiene the situation may be regarded as encouraging. A noticeable advance has been made in the direction of controlling one of the outstanding causes of mental disease, viz. alcoholism and as regards a second great cause, viz. syphilis. There are indications that education, prophylaxis, and improved methods of treatment are beginning to yield some results, as yet slight, to be sure, but nevertheless sufficient to be considered a sign of progress.—*Scientific Temperance Journal*, Vol. XXX, No. 4, 1921.

CHARLES DARWIN, APOSTLE OF SCIENCE

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One of the most satisfactory ways of adding to our fund of information is by reading either biography or autobiography. By this method, we are not only brought into contact with the personal and human side of the subject, but our viewpoint of contemporary history is greatly widened.

Of all the great men of science the name of Charles Darwin stands pre-eminent. The story of his achievements are not only a monument to his personal intellect and character, but stand as an imperishable record on which is written the story of the world's progress in science.



CHARLES DARWIN

All men who have the welfare and progress of humanity in their minds, may read with pleasure and profit the life of Charles Darwin and draw therefrom lessons and inspiration which tend towards the betterment of the human race.

The story of the progress of science is the story of the advancement of the human race. Science is classified knowledge. It seeks only after truth and such truth which can be verified by repeated experiment. Science stands ready to reject any hypothesis when it is found to be untenable. By means of science mankind has been able to harness the forces of nature for his own use and benefit, and in this way only, has progress and advancement taken place.

Professor Huxley, a contemporary of Charles Darwin, presented a formula which is the true scientific method of investigation and which is applicable to any and all subjects. It is found in Huxley's essay on "The Educational Value of the Natural History Sciences" and is stated as follows:

1. "Observation of facts, including under this head that artificial observation which is called experiment. (A question put to nature.)
2. That process of tying up similar facts into bundles, ticketed, and ready for use, which is called comparison and classification, the results of the process, the ticketed bundles, being named general propositions.
3. Deduction, which takes us from the general propositions to the facts again, teaches us to anticipate from the ticket what is inside the bundle, and finally
4. Verification, which is the process of ascertaining whether, in point of fact, our anticipation is a correct one."

These were the methods followed by Darwin, and the rational, intelligent thinker of today, who, in his search after truth, knowledge, intellectual satisfaction and moral support, will subject all his problems to the above tests, will find solid and satisfactory ground on which to stand. After all, what is more beautiful than truth? What better satisfaction than a realization and knowledge of the great forces of nature and their practical application for the benefit of humanity?

In his voyage from the cradle to the grave, a man is influenced by many things. Hereditary influences, environment, and education are the three most important factors in one's life. Charles Darwin was indeed fortunate as far as his ancestors were concerned, for if ever a man's ancestors transmitted to him the ability to succeed in a particular field, his did.

His early surroundings were calculated to call out that inherited ability. He grew up when a ferment of thought was disturbing old convictions in the domain of knowledge for which he was especially adapted by nature and worldly position to undertake unbiassed and long-continued investigations.

And he did that work so well that we must classify him as a great mental genius. His achievements far transcend his advantages of ancestry, surroundings, previous suggestions or position. He revolutionized not merely half a dozen sciences, but the whole current of the mental life of thinking men.

The grandfather of Charles Darwin on his father's side was Dr. Erasmus Darwin, a poet, naturalist and a physician who once wrote: "The science of medicine will some time resolve itself into a science of prevention rather than a matter of cure. Man was made to be well, and the best medicine I know of is an active and intelligent interest in the world of nature." It is indeed singular that he should have partially anticipated his illustrious grandson's theories, but without supporting them by experimental proof or by deep scientific knowledge.

Charles Darwin's grandfather on his mother's side was Josiah Wedgwood, originator of the famous Wedgwood pottery, a sociologist, a business man and an organizer.

Robert W. Darwin, the father of Charles, was a physician who possessed acute powers of observation and who married Susannah Wedgwood, the daughter of the rich Josiah. It is recorded that she was a woman of remarkable intellect and by the time of her marriage was matured by much intercourse with notable people, as well as by extensive reading and travel.

Such, in brief, was the ancestry of Charles Darwin and we may well remark that he was "fortunate in the choice of his parents."

Many men have attended medical schools only to find out that their life-work was not to be in that direction. After two years at Edinburgh, Charles Darwin found medicine so distasteful to him that he entered Cambridge with the idea of becoming a clergyman of the Church of England. But again the laws of nature were not to be thwarted and science was not destined to lose its great apostle.

The study of botany has always been universally popular. It brings us into the realm of fields and flowers, of sunshine and birds. Cambridge at that time was fortunate in having for its teacher on that subject, Professor Henslow, a man of acute powers of observation and of great patience and good nature. Thrown in contact with such a man, young Darwin became an ardent student of nature and eagerly absorbed the essential of the natural sciences.

And what an important factor in our life is a knowledge of the essentials of natural science? The man or woman who has a working knowledge of the essentials of botany, astronomy, physics, chemistry, geology and biology is well equipped to enter on life's work with a viewpoint based on reason and a mental attitude free from superstition.

In 1831 England sent out *Beagle*, a ten gun brig, which was commissioned to survey the shores of South America and to circumnavigate the globe. A volunteer naturalist was needed, and Henslow recommended to Capt. Fitzroy, the name of Charles Darwin who was then in his twenty-third year.

Few marked the departure of that ship, none could foretell what memorable results would follow from her voyage, or know that she carried the man whose theory was destined to revolutionize or profoundly modify every department of human thought and every motive to human action.

This voyage occupied the space of five years and during that period Darwin was extremely busy. He gathered an immense amount of material and facts. The distribution of living things in South America, both plant and animal, received his attention. He gathered fossil bones, shot wild birds and animals, observed the different races of men and collected geological material whenever available.

In spite of the fact that he was afflicted with seasickness, he did his work so well and accurately that few mistakes are recorded. He soon became convinced regarding the mutability of species and began to seek the problem of their origin.

The voyage ended in 1836 and as the English government had made an appropriation of 5,000 dollars towards the expense of publishing the results of the trip, "The Zoology of the Voyage of the *Beagle*" came out in 1839.

After twenty-three years had passed, during which time he tested every fact and argument telling in favor of or against his theory, the "Origin of Species" (in 1859) was given to the world. This book is the imperishable record of the most momentous advance in man's knowledge of the operations of nature since the publication of Newton's "Principia."

It is not within the scope of this article to analyze the "Origin of Species." It should be read by every well informed man and woman. It tells the story of variations under domestication and under nature, the laws of variation and the value of instinct.

"The preservations of favorable individual differences and variations, and the destruction of those which are injurious, I have called Natural Selection, or the Survival of the Fittest."

This is what he says in regard to natural selection, the phrase which started so much controversy. Darwin did not think it would explain all the phenomena of life, but it explained so much that it cannot be discarded. Briefly, Darwin accounted for the development of new species from common ancestry by means of the following factors: 1, over-production of individuals; 2, struggle for existence; 3, variation among individuals; 4, survival of the fittest; 5, inheritance of favorable characteristics; 6, new forms better adapted to survive are thus 'naturally selected' as new species."

This idea of the origin of species by the modification of pre-existent organisms had been in the minds of scientists before the time of Darwin. Linnaeus, Buffon, St. Hilaire, Lamarch, Goethe, Lyell, and Erasmus Darwin had all seen it but Charles Darwin recognized its universal application where others had seen only the particular.

In 1858 A. Russell Wallace sent Darwin an essay on "The Tendency of Varieties to Depart Indefinitely from the Original Type." This classed him as a co-discoverer with Darwin of the great idea. Natural Selection proved that definite kinds of plants and animals have been slowly evolved from simpler forms with definite adaptations to the special circumstances by which they were surrounded. Darwin made the idea believable and was much aided by the critical and skeptical attitude which developed in the world of science at the close of the eighteenth century.

In the time of Darwin, it was the general belief that all living things were the result of a special creation by a Deity, that man and his material universe was created by a God.

Physicists now regard ether as the one fundamental reality of the universe and that it contains all the "promise and potency" of every form and quality of life, including mind.

Theologians feared that Darwin's theory destroyed the God idea and that its acceptance would be dangerous to faith and morals.

As a matter of fact, there has been no time in the history of our universe when the standard of morals and ethics have been as high. To grasp fully the teaching of science is to pass from a condition of helpless isolation to one of universal brotherhood with the universe. Man is no longer to be treated as a solitary, maimed lodger in a world of dust and ashes. But by learning the laws of the universe, and by knowing that he, too, must conform to those laws, he is enabled to march unerringly to the highest goal. "Faith" has been superseded by reason and "credulity" has been replaced by knowledge.

To those who would decry science (and there are many) as leading to all sorts of immoralities and low conceptions of life, one may point with pleasure and profit to the life of Charles Darwin.

In spite of the fact that he was in constant ill health throughout his whole life, he bore his illness with uncomplaining patience and was a kind and loving husband and father. Honest to the highest degree, always courteous and gentle, he made hundreds of friends through his charitable nature.

After a few years residence in London, Darwin moved to the little village of Down, where he spent the rest of his life. There he was visited by great men of science of his day, and Haeckel, Huxley, Hooker, Lyell and many others, all made the pilgrimage to his home.

Fully convinced that all species were mutable productions, he could not avoid the belief that man must come under the same law. The result was, that twenty-three years later, "The Descent of Man" was given to the world in 1871.

Huxley in England and Haeckel in Germany had taken up and applied the theories of Darwin to their respective departments and the men of science in all lines were busily reconstructing old ideas. Darwin was thus the great moving cause in a great scientific revolution and in the vast onward movement of the human intellect. The "Newton of Biology," he found the science of life in a chaotic maze, he left it an orderly system, with a definite plan and a recognizable meaning. Charles Darwin produced a greater change in current thought than any other man and he accomplished this by observing nature with a strength of purpose, tenacity, honesty and ingenuity never surpassed.

Had Darwin never written the "Origin of Species" or the "Descent of Man" he would still be classed

as a great scientist. His monographs on "The Structure and Distribution of Coral Reefs," on the "Expression of the Emotions in Man and Animals" and "The Formation of Vegetable Moulds" would have placed him in the highest ranks.

Darwin's mental and moral fibre may be seen in a survey of his works. As to his mental qualities he writes: "From my early youth I have had the strongest desire to understand or explain whatever I observed, that is, to group under some general law."

"These causes combined have given me the patience to reflect or ponder for any number of years over any unexplained problem. As far as I can judge, I am not apt to follow blindly the lead of other men, I have steadily endeavored to keep my mind free so as to give up any hypothesis however much beloved (and I cannot resist forming one on every subject) as soon as facts are shown to be opposed to it. On the other hand, I am not very skeptical, a frame of mind which I believe to be injurious to the progress of science. A good deal of skepticism in a scientific man is advisable to avoid much loss of time."

"Therefore my success as a man of science, whatever this may have amounted to, has been determined, as far as I can judge, by complex and diversified mental qualities and conditions. Of these, the most important have been the love of science, unbounded patience in long reflecting over any subject, industry in observing and collecting facts, and a fair share of invention as well as of common sense, with such moderate abilities as I possess, it is truly surprising that I should have influenced to a considerable extent the belief of scientific men on some important points."

As to his religious views he says: "I think that generally (and more and more as I grow older) but not always, that an agnostic would be the more correct description of my state of mind."

However, as a young man Darwin was a believer in Christianity and, as we have seen, went to Cambridge with the idea of entering the ministry. But to use his own words, "Disbelief crept over me at a very slow rate, but was at last complete. The rate was so slow that I felt no distress." His attitude was that of the tolerant, unaggressive agnostic who naturally shrank from wounding the sensibilities of others in religious matters.

Darwin died in April, 1882, and in spite of his religious views, the great Westminster Abbey opened its portals to receive his body. The Abbey is the final resting place of orators and ministers who have convinced senates and swayed nations but not one of them all has wielded a power over men and their intelligences more complete than that which emanated from a simple country house in Kent. England realized this and paid him the highest of honors at his death.

In speaking of Charles Darwin in the recent publication, "Outline of Science," Prof. J. Arthur Thompson says: "Greatest of naturalists, who made the idea of evolution current intellectual coin, and in his Origin of Species (1859) made the whole world new."

All modern advancement owes its debt to the idea of evolution. That the present is the child of the past and the parent of the future is no idle dream. The evolutionist looks out upon the cosmos as a continuous process, unfolding itself in regular order in obedience to definite natural laws. He knows that ethics and morals are a part of the cosmic process and are as natural as gravitation.

In all systems the survival of the fittest prevails and we may hope that a new order of life of greater stability, reason, co-operation, and refined sympathy will yet become the common heritage of the race.

The essentials of a good character may be summed up as follows: Honesty, kindness, justice, love for humanity, self-control, sympathy, tenacity of purpose and reciprocity.

Charles Darwin was not only the possessor of all these attributes, but he practiced them.

England has produced great men in all walks of life. She has fought civil, social, industrial and religious battles for the world which we hope will never have to be repeated.

But the greatest of all her achievements has been the placing of science on a firm footing. The efforts of Charles Darwin should not be forgotten and he should be classed as one of the great benefactors of the human race.

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MASTURBATION

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Masturbation is not a disease nor does it necessarily produce disease, unless carried to excess. It is practiced by both sexes at all ages, but, to a far greater extent, by males. Children usually acquire the habit from older associates, but a smaller number begin the practice, when very young, often before realizing what they are doing. Local irritations in bladder, irritation about the prepuce in the male or the clitoris in the female, ascarides, and other causes, lead the child to handle itself, and frequently end, if long continued, in masturbation. There are so many causes, natural and unnatural, that few boys entirely escape onanism. The most common cause of the vicious habit is suggestion received from associates.

While a large per cent. of people have masturbated, it is probably safe to state that full 90 per cent. (Keyes) of those, who have indulged, escape physical injury as the result of the habit. The damage done, if any, is caused by the nervous shock from the oft repeated orgasm. Masturbation, however, is capable of producing the most serious results, among which, idiocy, insanity, epilepsy, physical prostration, hypochondria and impotence are prominent. These are extremely rare and are usually associated with some other cause, namely congenitally unstable nervous system, alcoholism, etc.

As soon as they learn from one source or other that they are injuring themselves, most masturbators cease. Those, who do not, are probably degenerates, masturbation being more a result of than cause of insanity. The following report of two cases recently seen in the Clinic, illustrates certain factors of interest:

CASE NO. 1.

Patient is a white, male, aged 17; High School student; afternoons, works for a printing company.
Patient's Statement:

- (1) Has never been very strong, since having a "nervous break-down," September, 1920, for which he was treated by a physician in Knoxville.
- (2) Has very little energy.
- (3) Tires easily.

- (4) Nervous frequently—worries much.
- (5) Often morbid.
- (6) Indigestion.
- (7) Unable to concentrate.

Note.—It is pertinent to remark that patient recently took a thirty-five mile bicycle ride, and was not especially fatigued.

Past History.—Patient says he was petted and spoiled as a child. Usual childhood diseases, uncomplicated; subacute tonsillitis, frequently. Tonsils and adenoids removed, 1920. Influenza, 1918; sick two to three weeks.

Family History.—Father, a man of strong mental attainments, until his health broke down; died, age fifty, of "pleurisy and tuberculosis." Mother in fairly good health, of a nervous temperament. Has five brothers, four of whom are in good health and successful. One brother, after receiving appointment to Oxford College, England, by competitive examination, went insane; now confined in asylum, classed as incurable; he was a confirmed masturbator.

Hereditary History.—Positive as to nervous diseases; one brother insane (see above); mother said to be "queer" and a "little off" at times. Father and paternal uncle died of tuberculosis.

Venereal History.—Denies all venereal diseases. States that he began masturbating at age twelve, and kept this up regularly for about three years. During the past two years has indulged himself, little, until recently.

Additional Data.—Sleeps soundly six hours (six hours sleep is insufficient for a growing boy seventeen years old); takes moderate exercise; environment poor—"has a room and takes all his meals at a dairy lunch"; bowels, irregular—must take laxatives frequently; uses no alcohol or tobacco.

General Physical Examination.

Development and nourishment good; complexion, semi-blonde; hearing, good; sight, defective—wears glasses; weight, 130 pounds; teeth, good; gums, healthy; has one impacted wisdom tooth, which was ordered extracted.

Glandular System.—Cervical and epitrochlea glands palpable.

Nervous System.—Unstable.

Mentality.—Good.

Reflexes.—Patella tendon exaggerated; other reflexes normal.

Genitalia.—Normal. Patient has been circumcised.

Other physical findings normal.

Clinical and Laboratory findings.

Temperature, 98; pulse, 70; respiration, 18; blood pressure, systolic, 130, diastolic, 90.

Urine.—Turbid; specific gravity, 1020; reaction, acid; albumin, none; sugar, none. Sediment, not remarkable, except two hyaline casts were seen. Note unusual blood pressure for a lad.

Blood.—Not remarkable.

Wassermann.—Negative.

Discussion.—This patient is the subject of an unstable nervous system. Heredity is probably responsible for a great part of the defect. We do not believe any physical damage has been done by his masturbation. Properly advised, he will be able to escape from the vicious habit.

CASE NO. 2.

Patient is a white, male; age 19; student in business college. Mother states that patient is very nervous; that he has been restless and irritable the past ten days. She asserts this condition was produced by the shock, incident to his grandmother's sudden death. Patient has had four "nervous upsets." None in the past three years except present one. The first attack occurred five and one-half years ago, "two weeks after tonsils were removed under local anesthesia." The attack lasted about two weeks and was characterized by pronounced morbidness, depression and weakness. Two other attacks followed within the year without special cause; they were similar to the first attack.

Past History.—Childhood, healthy; frequent tonsillitis prior to removal, 1917.

Family History.—Mother, age 40; in good health; very obese. Mother is of an aesthetic temperament; fourteen years ago she suffered a nervous prostration—invalid three years. Father, age 44, in good health. The influence of a doting mother is clearly shown.

Hereditary History.—Negative except mother (see above).

Venereal History.—Denies all venereal diseases; states that he masturbated regularly and excessively from age 13 to age 18; that he stopped the practice about six months ago and has not since indulged.

General Physical Examination.

Development unusually good; nourishment fair; skin healthy; complexion brunette; posture erect; height, 6 ft. 3 in.; weight, 157 pounds, a loss of 20 pounds within the last few months. Note.—Attention is called to the unusual stature, height and weight of the patient, who is but 19 years of age.

Glands.—Cervicals enlarged and palpable; epitrochleas and inguinals not palpable.

Tremors.—None.

Nervous System.—Unstable.
Reflexes.—Normal.
Other physical findings normal.

Clinical and Laboratory Findings.

Temperature, 98; pulse, 110; respiration, 18; blood pressure, systolic, 120, diastolic, 80.
Urine.—Three specimens were examined. Each specimen contained a small amount of albumin. Findings, otherwise, negative.
Wassermann.—Negative.
Blood.—Normal.

Special Examinations.

Dental Department.—Several teeth have cavities; the roots of three show infection.

Eye, Ear, Nose and Throat Department:

Eyes.—Symptoms of strain. Refraction was done under cycloplegic, revealing astigmatism in both eyes.

Ears.—Hearing slightly impaired.

Nose.—Negative.

Throat.—Negative.

Thorax:

Lungs.—Physical and X-Ray findings negative.

Heart.—Physical and X-Ray findings negative.

Abdomen.—Physical examination negative.

Gastro-Intestinal x-ray.—Normal findings, except for slight ptosis of the stomach and ptosis of the hepatic flexure of the colon.

Genito-Urinary Examination.—External genitalia, normal. Prostate gland, somewhat enlarged, not soft, not tender. Right seminal vesicle, indurated. The above findings are likely due to the habit of masturbation.

Neuro-Psychiatry.—Patient is of the neurotic type; looks and acts the part. He speaks in a low voice with a distinct lisp. He is of a retiring nature, inclined to be effeminate.

Discussion.—The patient is a huge, overgrown boy, being 6 ft. 3 in. in height, weighing nearly 200 pounds, when in good health, though but nineteen years of age. His nervous system is unstable, not having developed proportionately to the osseous and muscular systems. The instability of the nervous system has not been helped by the attitude of his mother, who is over-anxious and dotes on her only son; she pampers and spoils him. The habit of onanism was acquired at thirteen years of age and secured a firm hold on the patient before he realized that any harm could come from it. This is usually the case. About eighteen months ago he obtained some literature, exaggerating the ill effects resulting from masturbation, since which time he has been striving to discontinue the habit, worrying a great deal about it and, at times, becoming morbid over his health. We believe the patient will eventually overcome the practice. We have encouraged him to think that his health has not been impaired. Apparently, it has not been.

Recommendations:

- (1) Free discussion of the situation with the mother and with the patient. We instructed the mother to "divorce the boy from her apron strings."
- (2) Nerve tonics were prescribed.
- (3) We instructed the lad to abandon his practice of over-eating. He has been in the habit of eating heavily at meals and eating heavily between meals. Meats were not interdicted but the quantity, allowed, was reduced. Coffee and tea were interdicted.
- (4) Plenty of strenuous outdoor exercise was ordered.
- (5) We thought well to remove the patient from business college, sending him to the country for the next four months with instruction that he report to us once per month.

These cases illustrate the fact that the habit of masturbation is acquired early in life. Both cases clearly emphasize the relationship between the instability of the nervous system and heredity.

In the first case we have a highly cultured father and a highly cultured mother. The father was in line for promotion at an early age and would probably have been called to a professorship in one of our large Eastern colleges, when he suffered a general breakdown, succumbing, after an illness of several years, to tuberculosis. The mother, we are told, at the age of thirteen, was so proficient in German as to have taught a class of twenty pupils. Shortly afterward she became a versatile linguist, mastering not only English, but a number of other languages, besides German.

Genius has its reward, but usually pays a tremendous price and often suffers a terrific penalty.

In the second case we see the effect of heredity in an "overgrown boy-man," whose aesthetic, doting mother exerts a controlling and deterrent influence on her son, postponing the natural development of normal manly qualities.

Public Health

New York Sanitary Officers' Conference.

The plans of the State Department of Health for the operation of its new Division of Maternity, Infancy and Child Hygiene were described to the annual Conference of Sanitary Officers and Public Health Nurses at Saratoga Springs by Dr. Florence L. McKay, Director of the Division. This Division has just been established under the terms of the Davenport-Moore Law adopted by the Legislature as a substitute for the Federal Sheppard-Towner Act.

The State Department of Health is now prepared to offer assistance to cities, villages or districts that may desire to undertake local campaigns for the protection of the health of mothers and children. No cash subsidies to local communities were provided for by the Davenport Law, but a limited staff of physicians and nurses of special experience and training in obstetrics and child hygiene is being appointed by the State Department, and these experts will be available to advise local health authorities and private organizations how to start the work.

A preliminary survey of local health conditions, particularly as regards the welfare of mothers and infants, will be necessary in every district where it is proposed to undertake a concentrated campaign. The State Department will, on request, send a field agent to make such a survey, and this expert will also, if desired, undertake to organize all appropriate community forces for the local campaign.

Dr. McKay advised that every community begin by the formation of a council consisting of one representative from each existing organization concerned with the health and welfare of mothers and children, whether from the religious, social, educational, labor, health, or any other point of view. This council should be formed under the auspices of the health officer, mayor, and other public authorities, and should be divided into committees to take up various branches of the work. Whenever communities can organize their own campaigns without state assistance the Department will be glad to furnish outlines, plans, blanks, instructions, advice and any other assistance possible.

Dr. McKay said that the Department is now appointing a number of regional consulting specialists who will help to direct the campaign in the medical profession and among the people in their respective localities, and who will also bring to the Department their advice and the opinion of the medical profession as to methods of meeting the problems of high maternal and infant mortality and morbidity. The following physicians have already accepted appointment as regional consultants:

OBSTETRICIANS.

Dr. Paul T. Harper, Albany.
Dr. Reeve B. Howland, Elmira.
Dr. Henry W. Schoenick, Syracuse.
Dr. Stuart B. Blakely, Binghamton.
Dr. Ralph W. Lobenstine, New York.

PEDIATRICIANS.

Dr. Albert D. Kaiser, Rochester.
Dr. Henry L. K. Shaw, Albany.
Dr. Edward J. Wynkoop, Syracuse.
Dr. DeWitt H. Sherman, Buffalo.
Dr. Frank H. Richardson, Brooklyn.

The State Department of Health, Dr. McKay said, will offer assistance in organization, nursing and medical service to any county, to any city, or to any definite portion of a county comprising a group of rural communities not less than three in number totaling a population of at least 10,000. Requests for such assistance will be entertained from health officers of cities, from the board of supervisors of a county, from any recognized county-wide association, from a city or county medical society, or from any organized nursing organization. Requests should be referred through the Sanitary Supervisor of the Department for the particular district.

Dr. McKay stated that certain conditions must be met by the community desiring such State assistance, chief of which is an attitude of real co-operation, readiness to provide transportation within the community for the State agents, and an agreement to plan for the continuance of the work at local expense for at least one year after the withdrawal of the State Department representatives.

Dr. Stanton P. Hull, of Grafton, recently appointed by Governor Miller a member of the Public Health Council and who was elected President of the State Sanitary Officers' Association at the Conference, spoke on the problems of the rural health officer.

Dr. Hull declared that there are about 250 municipalities in the State that are without physicians and that there is a serious shortage of trained nurses.

"The reason for this," said Dr. Hull, "is that the country district is a less attractive place in which to live from the profes-

sional, social and economic points of view. Last winter, confronted with a severe epidemic of influenza, I was, at only one time, able to secure the services of a trained nurse. Nurses simply would not leave the city hospitals or city homes to care for the sick in the country where there is a great need for sanitary and comfortable living conditions.

"Sanitation in the rural communities is a very great problem and can only be improved to any great extent by the education of the people and a desire for a better and more comfortable living. It requires publicity and propaganda rather than actual detailed instruction of the individual. For example, the public must be informed that clean water and adequate sewerage are necessary for the well being of the community and that it should supply the requisite funds, but the public does not require the detailed information necessary to an individual as in the case of the prevention of tuberculosis.

"Everyone will admit that health education among children of school age is of supreme importance for the welfare of future generations. It is necessary to emphasize health teaching in the school by the creation of courses in sanitary science and hygiene by competent instructors, and by a continuous process throughout the entire school course. To bring this about it is necessary that the health and educational authorities co-operate. The instruction of adults is more difficult, although if the children are properly taught and interest is aroused the matter of informing parents will be greatly simplified."

Dr. William B. Van Auker, Health Officer of Watervliet, answered with an emphatic affirmative the question "Does Local Public Health Educational Work Pay?" Once initial difficulties are overcome and the interest of the people aroused it is easy for the health officer to carry on such work continuously and to obtain real results.

Dr. Hermann M. Biggs, State Commissioner of Health, referred to experiments with the serum for pneumonia that he said offers promise of being effective. He declared that experiments on a more expensive scale would be necessary to determine positively that a really successful preventative of pneumonia had been discovered.

Twelve hundred physicians, including the health officers of every district in the State and nurses attended the sessions of the Conference. Especial interest was shown in the explanation of the State Department of the program of the Division of Maternity, Infancy and Child Hygiene which is expected to do much toward reducing the mortality and morbidity rates of mothers and children.

The officers elected by the Sanitary Officers' Association in addition to Dr. Hull, President, were: Dr. G. Masillon Lewis, Vernon, First Vice-President; Dr. C. D. Klein, Nyack, Second Vice-President; Dr. A. C. Johnson, Gloversville, Third Vice-President; Dr. Myron W. Metz, Williamsville, Treasurer, and Dr. Montgomery Leary, Rochester, Secretary.

Effect of Legislative Control on the Incidence of Anti-Natal Syphilis

"The nosological nomenclature in use by the Commonwealth statistician offers as appropriate causes of infant death 'congenital malformations' and 'congenital debility,'" says J. H. L. Cumpston.

"It might be thought if the venereal disease control legislation were producing the results expected of it, that the deaths due to these causes would show a definite reduction in proportion to the births, as it is reasonable to assume for the present purpose that congenital syphilis plays a considerable part in the mortality of the first three months of infant life.

"The two tables attached (to the original article) show the mortality figures for each of these causes of death and for the sum of the two for a period of ten years (1910-1919), during which the statutes have been in operation in various States for various periods. The tables deal with the mortality in the first month and in the first three months respectively.

"It is obvious from a scrutiny of the tables that no State, whether with or without legislation, shows any improvement throughout the period, either in the one month or the three month period.

"The relationship of this fact to the administrative campaign against venereal diseases is capable of discussion from alternative aspects.

"Either the mortality at the ages under discussion is not the result of venereal infections or the measures now in operation against venereal diseases are not materially or favorably affecting mortality from congenital venereal infections."

The author quotes a letter of Fairley and Fowler showing that 9.75 per cent. of all women attending the maternity department of the Women's Hospital in Melbourne showed a strong positive Wassermann reaction, that 11.3 per cent. of neonatal infants showed the same, and that of collaterals of syphilitic women examined (husbands and other children) 50 per cent. had positive Wassermans.

Author concludes: "The very high percentage of collaterals with positive reactions indicating the immensity of the reservoir of undiscovered and uncontrolled syphilis in the families of the infected persons, points the way to further extension of the initial efforts to control syphilis.

"The following administrative measures among others must receive earnest consideration:

"a. Routine examination of the wife (or husband) and the children of the syphilitic.

"b. Routine examination of every pregnant woman (which involves compulsory notification of pregnancy) and a proper organization to insure ante-natal examination.

"c. The provision of facilities at strategic points for effective prophylaxis for immediate application after exposure to infection."—(*Med. Jour. of Australia*, August 20, 1921.)

Sunstroke and Heat Prostration

Whenever a number of days of very hot weather follow in succession we usually see in the newspapers a list of people who have died as a result of the heat, and of others who have been prostrated.

Heat prostration or heat exhaustion is a collapse due to the effect of high temperature on the body. It is most apt to occur when one has undertaken heavy or unusual physical exertion. It is milder in form and less serious in its after-effects than sunstroke, which is usually caused by prolonged exposure to the rays of the sun.

In cases of heat exhaustion the temperature of the patient rarely rises above 103° and may be below normal; the face is pale; the skin is cool and covered with a clammy perspiration, and the patient is conscious; sunstroke on the other hand, is marked by a temperature running as high as 110° or 112°; the face is flushed; the skin is hot and dry, and unconsciousness comes at once, the patient often dropping as if struck by a bullet.

When a person collapses from the heat, the first thing to do is to call a physician, but while waiting for him to respond there are a number of things that can be done to make the patient more comfortable and to give him a greater chance of recovery. In heat prostration the person affected should be removed to as cool a place as possible, placed flat on the back with the head low and a light covering thrown over the body. A mild stimulant may be given. In cases of sunstroke, however, an effort should be made to lower the temperature of the body by ice packs on the head, ice water sponging of the body, and if necessary, a cold bath until the body temperature is lowered to around 102 and consciousness returns. Under no conditions delay in calling a physician, for cases of sunstroke may result fatally, and expert care must be given at once.

The after effects of sunstroke are much more serious than those of heat prostration. Permanent inability to withstand high temperature often results, while loss of mental concentration or memory are frequently noticed.

Prevention is better than cure. During periods of excessive heat, eat wisely, confine the diet largely to green vegetables, milk and other light foods, work but moderately, drink an abundance of water, get plenty of sleep, and avoid long exposure to the sun. Keep the body in the very best of condition as indicated in one of our previous talks "KEEPING WELL IN HOT WEATHER."

Domestic Quarantine and Venereal Disease.

"The migration of persons suffering with venereal disease from their home State to another State without first procuring from their local health officer a permit stating that their travel is not dangerous to public health violates the Federal law forbidding the spreading of contagious diseases and will be rigidly suppressed," says the U. S. Public Health Service.

"Last spring the Attorney General, at the request of the Service, instructed all United States attorneys to co-operate fully with it and to prosecute offenders vigorously. Since then several violators have been sentenced to reformatories, where their disease-spreading activities have been stopped and they themselves are receiving proper medical treatment.

"The law and the regulations based on it are not so widely known as they should be; and the objects sought in their enforcement are not everywhere clearly understood. The law seeks to control the spread of disease but not necessarily to prevent the travel of venereally diseased persons. Such travel, if undertaken under proper precautions in search of medical help, will be encouraged by the Service. The law, however, seeks to close every channel through which venereal disease may be spread; and to do this it has been found necessary to put a stop to the movements of those who seek to migrate from one State to another in order more safely to carry on the business of spreading disease.

"When such persons and their associates learn that travel

from one State to another while venereally diseased leads to arrest and severe punishment, they will have an added incentive for submitting to voluntary treatment; and the day will be hastened when every infected person will at once place himself or herself under the care of a skilled physician of his or her own selection.

"At present it is probable that very many persons either never receive proper treatment or that they cease treatment too early, in the belief that they are cured and thus become dangerous. Laws on this subject differ in the different States; and this fact leads to migration from those whose laws are rigid to those whose laws are less so.

"No attempt either by the U. S. Government or by State governments to police the State borders seems practicable. The laws of practically all States, however, require physicians to report all venereal cases that come to their attention; and a judicial or police investigation of the history of any apparent new-comer who chances to be arrested will early disclose most of the new arrivals in the State. These may then be proceeded against under United States law.

"Proceedings," adds the U. S. Public Health Service, "are based on the Interstate Quarantine Regulations, whose making by the Secretary of the Treasury was authorized by Congress Feb. 15, 1893 (27 Stat., ch. 114, p. 449) amended March 3, 1901 (31 Stat., ch. 836, p. 1086). Objections on the ground that the regulations are insufficient or defective or that Congress may not delegate its legislative authority are without merit. The Secretary's act in making the regulations is administrative and is authorized by the act of Feb. 15, 1893. The penalty for violation is fixed by Congress, is legal, and has been sustained in United States courts. Details of the above are given in Reprint 693 of the U. S. Public Health Service, just issued.

Permits for travel obtained from the local health officer must state that the travel in the opinion of the officer is not dangerous to the public health. The traveller must state where he intends to reside; and he must agree in writing to report to the proper health officer there within one week after arrival and to continue treatment under a reputable physician until the health officer certifies that he is no longer infectious. The health officer who issues the permit must promptly notify the new health officer, who must take appropriate action.

Laboratory Workers Contract Tularaemia.

All six of the laboratory workers of the U. S. Public Health Service who have been studying tularaemia, a disabling sickness of man which has been known, particularly in Utah, for the last five years, have contracted the disease, two of them being infected in the laboratory in Utah and the other four in the Hygienic Laboratory in Washington. Such a record of morbidity among investigators of a disease is probably unique in the history of experimental medicine.

Two of these workers are physicians; one is a highly trained scientist; and the others are experienced laboratory assistants. One of them contracted the disease twice, once in the laboratory in Utah and again, two years and five months later, in the laboratory in Washington.

In these workers the disease began with a high fever, lasting about three weeks, and was followed by two months of convalescence. The disease has few fatalities, its chief interest arising from the long period of illness which it causes in mid-summer, when the farmers of Utah are busily engaged in cutting alfalfa and plowing sugar beets.

The studies into the cause and transmission of the disease show it to be due to a germ. *Bacterium tularensis*, which is conveyed by six different insects: the blood-sucking fly, *Chrysops distalis*; the stable fly, *Stomox calcitrans*; the bedbug, *Cimex lectularis*; the squirrel flea, *Ceratophyllus acutus*; the rabbit louse, *Haemodipsus ventricosus* and the mouse louse, *Polyplax serratus*. Only the first four of these are known to bite man. It appears possible that the germ may also enter through unbroken skin; for instance, that of the hands.

The North European Red Cross Conference on Venereal Diseases

Ritchie compares the resolution passed by the All-America Conference held in Washington in 1921. Both conferences agree that the provision, by responsible health authorities, of adequate treatment is of the utmost importance. Great Britain, in disagreement with the majority, stands for absolutely free treatment. The European nations could not agree on the policy of notification and compulsory treatment. The British rely on education of the public and report the constantly increasing attendance at public clinics. That every medical practitioner should be qualified to recognize and treat cases of venereal disease is emphasized.

Regulation and official tolerance of prostitution are condemned. The conference approved of the provision of hostels and rescue homes. The importance of wholesome recreation is emphasized.

The resolutions on public information and education cover in general terms a subject which was exhaustively considered by the All-America Conference. Enlightenment of the general public on the subject of venereal diseases, instruction in the facts of reproduction, and special courses for teachers, along these lines, are mentioned.

Special interest was manifested in the treatment of seafarers.—(*Intern. Jour. Public Health*, September-October, 1921.)

End-Results of Prenatal Care.

The results of prenatal care based on 1,000 consecutive deliveries are analyzed by Alfred C. Beck, Brooklyn, N. Y. and the plan of organization of the maternity service in which this work was done is presented. One hundred and six of the patients included in this series had contracted pelves. While most of these were slight, in twenty the diagonal conjugate was 10.5 cm., or less, and the bischial was 7.5 cm., or under, in fourteen. Complications of pregnancy sufficiently grave to influence the end-results were observed in seventy-seven cases. Of these, toxemia (37 cases), syphilis (30 cases) and cardiac disease (7 cases) were the most common. In spite of efforts to prevent their occurrence, abnormal presentations were observed in forty cases, an incidence of 4 per cent. Operative interference was required in only sixty cases.

Median perineotomy was frequently performed in the primiparas, especially of the fetal heart showed signs of asphyxia. The low incidence in the use of forceps (22 cases) was striking and shows how rare the maternal and fetal indications for this procedure really are, when median perineotomy is added to the obstetrician's armamentarium. Seven patients had suppurative mastitis, and in fifty-nine the puerperium was febrile, an incidence of 5.9 per cent. Four patients died. One fatality was due to influenzal pneumonia and three occurred during an epidemic of puerperal infection. In 4,500 consecutive cases, similar to, and including, the thousand which are analyzed in this paper, only three mothers died, in addition to the four above recorded, an incidence of one death in 643 cases. As a result of the progressive increase in the efficiency of prenatal organization and routine, Beck says the infant mortality grows less each year. Nineteen, or 1.9 per cent., of the pregnancies terminated in stillbirths and six infants died under fourteen days; a mortality of twenty-five, or 2.5 per cent.—(*J. A. M. A.*)

A Plea for the Metric System.

For years the problem of introducing the metric system into general use in this country has occupied the interest of physicians as well as of other scientists. This system is today employed in all the civilized world except Great Britain and her colonies, Russia and the United States. Even Russia, before the outbreak of the war, calculated all her imports according to the metric system. The present time seems to be distinctly opportune for a renewed agitation in the United States for adopting the system. Two million American soldiers received some instruction in its use during their sojourn in France; many of our industrial plants became familiar with the metric scale through work on war material designated for shipment abroad, and the wiping out of international borders is today more closely realized than ever before in the world's history. At its last meeting, a committee of the American Chemical Society recommended the general adoption of the metric scale and requested that chemists hereafter order all supplies in metric quantities. A resolution favoring the method was introduced into the House of Delegates of the American Medical Association, at the Boston session. As one hears of the numerous organizations cited as being wholly favorable to discarding the old methods and to replacing them by the metric, one wonders how it is that the change has not long since been made. The medical profession should take the lead and not follow in this reform. If it is to do this, the first step must be education of the young men. Teachers in medical colleges should teach in terms of the metric system and talk in terms of the metric system at the bedside as well as in the lecture room. To stop at this, however, would be slow work. It is necessary that medical journals, too, should feel their responsibility in this matter. If authors who submit manuscripts do not give measurements in metric terms, the periodicals may aid the movement by making the necessary transposition.—(*J. A. M. A.*, Oct. 15, 1921.)

Diagnosis and Treatment

The Treatment of Carbon Monoxide Poisoning.

Carbon monoxide poisoning is one of the most widely distributed and most frequent of industrial accidents, says the U. S. Public Health Service. The gas is without color, odor or taste. It is an ever-present danger about blast and coke furnaces and foundries. It may be found in a building having a leaky furnace or chimney or a gas stove without flue connection, such as a tenement, tailor shop, or boarding house. The exhaust gases of gasoline automobiles contain from 4 to 12 per cent. of carbon monoxide, and in closed garages men are not infrequently found dead beside a running motor. A similar danger may arise from gasoline engines in launches. The gas is formed also in stove-rooms, in gun turrets on battleships, in petroleum refineries, and in the Leblanc soda process in cement and brick plants. In underground work it may appear as the result of shot firing, mine explosions, or mine fires, or in tunnels from automobile exhausts or from coal or oil burning locomotives.

Carbon monoxide exerts its extremely dangerous action on the body by displacing oxygen from its combination with hemoglobin, the coloring matter of the blood which normally absorbs oxygen from the air in the lungs and delivers it to the different tissues of the body.

Oxygen will replace carbon monoxide in combination with hemoglobin whenever the proportion of oxygen in the lungs is overwhelmingly greater. Therefore:

1. Administer oxygen as quickly as possible, and in as pure form as is obtainable, preferably from a cylinder of oxygen through an inhaler mask.
2. Remove patient from atmosphere containing carbon monoxide.
3. If breathing is feeble at once start artificial respiration by the prone posture method.
4. Keep the victim flat, quiet and warm.
5. Afterwards give plenty of rest.

The Mirage of Urinary Antisepsis.

From the days when Lister filled his operating room with carbolic acid spray down through the long succeeding line of experiments with all varieties of antiseptics, physicians have had ever before them the ideal of perfect asepsis, or, failing that, of complete antisepsis. Enthusiastic physicians have seen just ahead of them the abolition of nearly all disease by the application or administration of appropriate germicides.

One of the primary obstacles in the road toward such a goal, however, was the fact that the usual antiseptics, in strength sufficient to be germicidal, were altogether too irritating to be applied to such areas as mucous membranes or the interior of viscera. In the face of this undoubted fact, compromises were made. Thus we had substances which would gradually liberate antiseptics which, mingling with the natural fluids of the part in question, would be mildly antiseptic. Of this nature were the various intestinal antiseptics which began to flood the market, lozenges which, dissolving slowly on the tongue, were presumed to inhibit the growth of oral bacteria, and so on.

The advent into therapy of hexamethylenamine was naturally the occasion for rejoicing among the devotees of this doctrine. Here was a substance which when taken internally resulted in formaldehyde being excreted in the urine, the bile, cerebrospinal fluid, middle ear, and possibly other places. This at once gave rise to many schemes of therapy, as, for example, the treatment of general paresis by sterilizing the spinal fluid. Many English psychiatrists seriously recommended the drug in this disease, published case reports showing apparent improvement in patients treated with it, and even put the method into textbooks.

The most obvious use for the new drug, however, was as a urinary antiseptic. But as the years go on, it becomes increasingly evident that it must be relegated to a position but little, if any, higher than salol, boric acid, and ammonium benzoate. The mirage of a perfect urinary antisepsis still lures us on, but fades on our approach. Aside from the difficulties necessarily involved in finding a chemically stable substance which will pass through the kidneys in sufficient quantities, which will be non-toxic, and which will be sufficiently antiseptic in large quantities of urine of any reaction, we have the frequent presence of a chronic source of reinfection with which to contend. In the presence of such things as retention, a stone, or a neoplasm such a drug as hexamethylenamine is by no means specific, in fact, we are coming more and more to believe that its chief value is as a prophylactic. The ideal urinary an-

tiseptic is then still to seek, and we must regard it as one of those problems such as the search for a specific for tuberculosis and a treatment for paresis, which continue to fascinate investigators.—(*Med. Rec.*, Nov. 26, 1921.)

Treatment of Gonorrheal Urethritis

S. M. Gellert, Portland, Ore., lays down many simple but excellent rules in specifying the method of handling this condition. When internal medication is advisable he suggests some one of the balsams and after the acuteness has subsided, the Lafayette mixture.

For local treatment he favors albargin, which he says possesses almost specific activity in the acute infection. He gives injections through an Asepto syringe and fills the urethra up to the cutoff muscle. Gellert's practice is to inject the albargin solution once a day, retaining it in the urethra for fully ten minutes, although in some cases he finds it advisable to utilize it once in six hours. This treatment is carried out as long as the gonococci remain in the urethral discharge or the urine shows any trace of pus. When the discharge becomes catarrhal, the patient injects a mild astringent solution two or three times a day, such as zinc sulphate, zinc acetate or an emulsion of bismuth subnitrate.

If the gonococcus develops an immunity or becomes fast to the injection used, the author suggests the substitution of some other solution, such as acriflavine or protargol, and when the terminal stage persists he uses irrigations of potassium permanganate or silver nitrate 1:10,000. Gellert does not believe in irrigations in the early stage and lays particular stress on this point. He stops treatment after the discharge has been absent and the urine clear for ten days but he tapers off his treatments gradually.—*The Medico*, May, 1922.

The Place of Electrocardiography.

Louis Faugeres Bishop, of New York, says it is necessary to be absolutely familiar with the electrocardiogram before its true significance becomes a matter of habitual interpretation. The old belief of the medical profession that there is a sharp and definite line between the normal and the pathological heart is a great stumbling block in the progress of electrocardiography. An elaborate symposium on this subject was held at the New York Academy of Medicine on the evening of December 13th. This meeting was opened by Dr. William Sidney Thayer, of Baltimore, and continued by a number of prominent internists. Dr. Thayer's paper on the Minimum Symptoms and Signs Necessary to Make a Diagnosis of Organic Heart Disease was wonderfully pleasing and illuminating, and the speakers who followed him were all interesting, each according to his own particular interpretation of cardiac philosophy. However, at the end of a long and delightful evening, the matter of what constitutes organic heart disease remained exactly where it was at the beginning of the discussion.

Bishop has not used the terms organic heart disease and functional heart disease for a long time. It appears that all diseases start with the disturbance of function, and organic changes probably exist as a temporary factor in the very beginning of any serious disorder, and, when at the very end there is a profound change of structure, it is only the end results of functional disorder. If there is any truth whatsoever in this statement, how in the name of heaven can we know where organic disease begins? This may seem like a digression, but it has a profound bearing on the study of electrocardiology.

Every heart is different from every other heart, and just so each electrocardiogram is different from every other electrocardiogram. Their significance depends entirely upon their being a part of the whole picture. As such, they are a modifying factory in the appraisal of each heart, whether regular or irregular. People no longer come for the diagnosis of heart disease. They come because the diagnosis of heart disease has been made and they require an appraisal of their hearts. This appraisal gives the opportunity for an interesting analogy. If you should pay some good real estate firm for an appraisal on your house, they would look up all their records pertaining to your property, but they would not be satisfied until they had sent an expert to look over the property. If a title was involved, they would have the property surveyed. In the same way, before an appraisal of the heart is complete, it is necessary to look at the heart with the fluoroscope and to observe the heart beat as shown in the electrocardiogram.

It is perfectly absurd to hand a man an electrocardiogram of an unknown person and ask him whether the heart is normal or abnormal. The electrocardiogram of youth is perfectly abnormal in old age, and the electrocardiogram of old age is not that of middle life. It is also fair to give any facts which bear on electrocardiology, such as amputation of the left hip or marked curvature of the spine. In a large proportion of appraisals of hearts the electrocardiogram furnishes the additional factor which makes the whole results correct and complete.

It is not so much a knowledge of the technicalities of the electrocardiogram that is lacking in the medical profession of today, for a great many men have taken pains to learn them, but it is failure to appreciate the electrocardiogram as bearing upon everyday problems in cardiology.

For these reasons it is fair to advocate the routine use of electrocardiography, so that every one may have the opportunity to study the necessary number of electrocardiograms in direct connection with the people involved. The new field that opens makes it necessary to create new categories in the classification of hearts, for instance, the group of the infantile heart, which I have described elsewhere.—(*N. Y. Med. Jour.*, Jan. 18, 1922.)

Skin Changes in Chronic Intestinal Stasis.

There is no doubt that there is a distinct relationship between certain skin affections and gastrointestinal disorders, probably a more intimate relationship than is commonly imagined. In a way this connection is more or less easy of explanation. If the gastrointestinal tract is in a disordered condition, toxins are apt to invade the circulation when certain skin complaints may follow.

Of all the disorders to which the alimentary tract is subject, none is perhaps more frequent and none is more liable to bring about intestinal autointoxication than intestinal stasis. Moreover, intestinal autointoxication means that the entire system may and often does become infected, with the result that one of the systems is the supervention of certain skin affections. Sir Arbuthnot Lane has been for long the chief apostle of the doctrine that a large number of the ills to which human flesh is heir are due to an accumulation of the contents of the large intestine, which after a time produces injurious effects on the alimentary tract and a general infection. In the endeavor to adapt itself to the circumstances changes take place in the gastrointestinal tract, of which one result is the formation of evolutionary bands, which secure the intestine in its normal position, but which later tend to constrict the lumen of the bowel and increase the stasis. In a paper contributed to the *Medical Press and Circular*, October 26, 1921, Sir Arbuthnot Lane points out that the above is an illustration of a law that he formulated, namely, that every change that arises during the lifetime of the individual to enable him to accommodate himself more efficiently to his surroundings tends to shorten his life.

So far as the effect of chronic intestinal stasis on the skin is concerned, it is noted that pigmentation is the most marked change. This change is said to be owing to degenerative changes in the adrenals consequent on the excessive strain experienced by these organs because of the presence of the toxins in the blood. Profuse and offensive sweating is another skin symptom, and abnormal growth of hair and premature appearance of wrinkles are others. Again, the temperature and color of the skin affords evidence that the toxins in the circulation are giving warning that something is decidedly wrong with the state of the blood. The temperature is subnormal and the skin is a bluish livid color or bloodless and pallid.

While the writer does not tabulate the various affections of the skin which in his opinion arise from intestinal stasis indirectly he draws attention to the fact that owing to the lowered vitality and resisting power of the several structures composing the skin, due directly to autointoxication or to changes in the ductless glands produced by it, the skin is liable to be invaded by organisms which are able to secure a foothold in it and to form inflammatory changes constituting disease. He ends by saying that the dermatologist is no longer satisfied to treat these skin conditions empirically by external applications, supplemented by drugs by the mouth, but first investigates the condition of the gastrointestinal tract, studies the several factors which prejudice the health of the tissues generally, as well as of the skin, and endeavors to deal with them, while at the same time he attacks the disease directly with suitable germicidal agents.

While many do not go so far as the British surgeon in attributing to intestinal stasis the disastrous sequelae which he enumerates, there are few now who do not indict the gastrointestinal tract as a factor in the causation of several diseases,

and minor maladies directly or indirectly. To what extent the skin is prejudicially affected by chronic intestinal stasis is a question. It certainly is true that if the gastrointestinal tract is not in proper working order, or puts the entire system out of gear, and if long continued, as in the case of chronic intestinal stasis, many lead to very serious conditions. The moral is to prevent it from becoming chronic by treating any slight digestive troubles by dieting, exercise, and so on, but never by the use of strong cathartics.—(*Med. Rec.*, Nov. 26, 1921.)

Treatment of Gonorrhea in Men

Lees stresses the importance of accurate diagnosis.

General Treatment: This aspect chiefly of importance during the acute stage. As in all inflammatory suppurating conditions, cleanliness, rest, simple diet, and the efficient acting of all the excretory organs of the body are essential. Alkaline diuretics combined with urinary sedatives are of greater value than any of the more reputed specific drugs, and much less harmful to the general condition. In complications drugs such as urotropin, salol, boric acid, etc., are of value, but should not be given in doses which will set up urethral irritation.

Local treatment of the urethra: Antiseptic therapy more indicated in the acute than in any other stage of the disease. Hyperacute conditions should be allowed to subside to some extent before beginning to wash out the urethral canal. The object of irrigation in the early stages is: (1) Surface cleansing, (2) antiseptic action, (3) venous congestion, with the resulting flow of serum to the part. . . . As the infection ages, irrigation for the first two is less required. For the third, the most effective method is gradually to increase the temperature of the fluid from 104° to 110° or 112° F. rather than increase the strength. . . . Of the multiplicity of antiseptics there are few if any which give better results than permanganate of potash or zinc.

Instrumental treatment: In cases where the organisms have invaded the lacunae or the gland ducts, whether anterior or posterior urethra, instrumental examination by the urethroscope is essential for accurate diagnosis. The only cases in which the intraurethral treatment through the endoscope is of decided benefit is in the opening of a periurethral abscess, the removal of a polypus or similar conditions. In dealing with infiltrations Killman's dilator is more efficient. Prostatic massage hastens cure in cases of posterior urethritis. In epididymitis operative interference in the shape of injections of electargol 1 to 2 c.c.m. is effective in aborting the condition if the case is seen early, but of little use except to ease pain in the established case.

Vaccine therapy: Conflicting results obtained up to now in vaccine therapy due more to faulty methods of administration than to failure of therapy.

"If the ideal treatment is to be attained, I am convinced that it will be along the lines I have indicated, by the use of mild antiseptics applied to the inflamed part in combination with the administration of a strongly antigenic and specific vaccine, but the clinician must have working with him a competent bacteriologist or serologist to help in working out more accurately the methods of administering specific vaccines and of controlling their actions."—(*Brit. Med. Jour.*, September 24, 1921.)

Presence, Absence and Location of Rales in Prognosis of Pulmonary Tuberculosis.

Francis B. Trudeau, Saranac Lake, N. Y., has made an analysis of 1,000 consecutive admissions to the Trudeau Sanatorium. Cases in which no rales were found, either on admission or on discharge examination, show the highest percentage of "cures." Those patients who entered the institution with rales but who lost them during their stay form nearly as favorable a group as those showing no rales at any time. In patients who entered the institution without rales but who developed them during treatment, the prognosis is much more grave than in either of the two above-mentioned groups. In spite of the greater frequency and the more common findings of the tubercle bacilli in right upper lesions as contrasted with left upper, the prognosis is considerably more favorable in the former class of patients. Basal rales should not be diagnosed as nontuberculous too lightly, for in nearly 50 per cent. in our series, tubercle bacilli were found in the sputum, and nearly 40 per cent. of these developed apical rales during their stay in the sanatorium. The prognosis among our cases in which the rales were limited to one or both bases was not more grave than in those patients with rales over one or both upper lobes.—(*J. A. M. A.*)

Surgery

Splenectomy for Pernicious Anæmia.

Dr. J. M. Hitzrot reported to the New York Surgical Society the case of a woman, aged thirty-six, who was admitted to Dr. Connor's service, New York Hospital, September 25, 1920, complaining of weakness, numbness, throbbing in head, stomach trouble. Present trouble began five months ago with feeling of weakness, belching of gas and swelling of the ankles. Her appetite became very poor. Condition has increased steadily up to her admission. Menses negative—normal. Important points on physical examination were lemon color of skin, general anæmia. Teeth gone. Heart—soft systolic murmur at apex. Lungs negative. Abdomen negative except for small umbilical hernia. Spleen was considered palpable by some members of the staff and not by others. Pelvic negative. Hæmoglobin, 30; red blood-cells, 1,000,000; white blood-cells, 1,300; polymorphonuclears, 41 per cent.; lymphocytes, 47 per cent.; eosinophiles, 2 per cent. Occasional normoblast. No increase in blood platelets.

Stomach: Total acid, 1.6; free HCl, 0.8. Lactic acid negative. Guaiac tests negative.

Fluoroscopic (Doctor Holland): Heart, liver and œsophagus negative. Stomach orthotonic, hooked, good position. No defects or spasm. Negative for organic change.

Stool examination negative for parasites or ova.

September 28, 1920: Transfusion, 350 c.c. blood; chill.

October 8, 1920: Transfusion (from another donor), 400 c.c. blood; no reaction.

October 24, 1920: 300 c.c. from first donor; same reaction.

November 5, 1920: Transferred to First Surgical Division.

November 8, 1920: Operation, splenectomy. Spleen three times normal size. Perihepatitis. Gall-bladder thick walled, containing stones, removed between clamps. Small subserous fibroid in uterus. Appendix normal; not removed.

Discharged eighteenth post-operative day; hæmoglobin, 55 per cent.; red blood-cells, 3,000,000.

Culture from gall-bladder sterile.

Condition has remained stationary since then.

Blood, October 3rd: Hæmoglobin, 45 per cent.; red blood-cells, 2,500,000. Numerous normoblasts. The symptoms existing before.

Dr. Lilienthal said that he had done a number of splenectomies, although one in a case of pernicious anæmia. That patient died of morphine poisoning after the operation.

Dr. Lilienthal asked Dr. Hitzrot what type of blood transfusion he employed. He said he asked this particularly because of the chill that so often followed transfusion by the citrate method, the reply being made that the citrate method was used.

Dr. Lilienthal expressed the opinion that in primary blood disease it was better not to use the citrate method but to use whole blood. He said he had formerly used the citrate method following pulmonary lobectomy. He formerly did a blood transfusion after lobectomy because there was a huge outpour of bloody serum into the pleura for the next forty-eight hours following the operation. It was equivalent to the loss of a large amount of blood because the fluid contained as much as 10 per cent. hæmoglobin. That loss had to be replaced, so he had used blood soon after the operation. He had had two cases in which death occurred with a terrific rise in temperature after transfusion immediately following lobectomy. There always seemed to be more or less reaction following transfusion by the citrate method after lobectomy; so he had given up all except the direct methods. He preferred one of the syringe methods which had less danger of reaction than the citrate method. Whether the citrate method acted as well as whole blood in primary anæmia he was not enough of a hæmatologist to say, but he would like to hear what others had to say on that point.

Dr. Franz Torek said it would be encouraging to hear of a case of pernicious anæmia successfully treated by splenectomy. In the case reported he did not hear any mention of the presence of megalocytes or megaloblasts in the blood. To his understanding a case of anæmia could not be diagnosed as pernicious anæmia unless the blood contained megalocytes and megaloblasts. Dr. Torek reported a case of his own of pernicious anæmia in which he performed splenectomy. The patient was a Russian, twenty-seven years of age, ill for three years with the characteristic clinical symptoms of pernicious anæmia. When he came to the hospital his blood count was hæmoglobin, 40 per cent.; red blood-cells, 1,000,000; white blood-cells, 2,400. Megalocytes and megaloblasts were present. The patient had all the characteristic symptoms, a sallow yellow appearance, such general symptoms as weakness, loss of appetite, loss of weight, constipation, headaches, dyspnoea,

slight œdema, polyuria, blood in the urine and blood in the stools. The stools were examined and no bothrioccephalus ova were present. The patient was transferred from the medical department to Dr. Torek's service. He operated on him on October 2, 1920. He had a very normal post-operative course. After about two weeks his wound was completely healed and he was retransferred to the medical service. While in the surgical division blood studies had been made practically every day, and later quite frequently until he was discharged after the medical division had studied him about a month longer. When he was discharged he felt distinctly better, though the blood examination showed no improvement whatever, either as to the degree of the anæmia, the number of red cells remaining as low as before, nor as to the kind of anæmia, for he still had megalocytes and megaloblasts. He went out and took a job which required about two hours of work daily. Dr. Torek mentioned this because before his admission to the hospital he had been unable to work for two and a half years. Three months later he returned to the hospital. His blood count was then 10 per cent. of normal. His symptoms were mostly gastric. He died about eight days after admission. The autopsy showed a hypertrophied heart, parenchymatous nephritis, and the cause of death was pernicious anæmia. The appearance of improvement was probably nothing more than one of the remissions one sees in cases of pernicious anæmia without treatment. Sometimes remission last quite a long time whether the patient is treated by splenectomy and transfusion or not.

Dr. Torek added that the incision he had used in doing the splenectomy was one he had devised but had never published. It began at the ensiform cartilage, ran along the left costal border and extended to the posterior axillary line or still further back. The front part of the incision passed outward and downward and the back part ascended again. This incision permitted raising the costal arch, giving good access to diaphragmatic adhesions and bands. It was a combination of the anteriorcostal incision and the oblique lumbar nephrectomy incision. It had one drawback in that more blood-vessels had to be secured than with the rectus incision, but this was more than counterbalanced by the greater ease with which one could handle adhesions and the greater access to the entire region. Where the spleen was movable the ordinary rectus incision was satisfactory.

Dr. Richard Lewisohn stated that they had had occasion to test the different methods of blood transfusion in pernicious anæmia, using citrated and uncitrated blood, and they had found that it was really not the method which played any rôle in the effectiveness of transfusion, but it was the time at which it was done. In the early stage any method would be effective, but if one got a case of pernicious anæmia in the late stage no method would be of great benefit. Dr. Lilienthal mentioned chills following citrate transfusion. There was no doubt that among the citrate cases a larger percentage had chills than among the non-citrate cases, the percentage in which chills occurred being twenty-five in the citrate cases against five in the non-citrate cases, but no method of blood transfusion was free from chills. Dr. Neuhof, who administered 6 to 8 grams of sodium citrate intravenously for the prevention of hemorrhage, did not observe one chill among 100 cases. The real cause of the chills still remains unknown.—(*Am. Surg.*, Jan., 1922.)

Dislocation of the Shoulder With Fracture of the Surgical Neck of the Humerus.

In this double lesion many of the symptoms of simple dislocation of the shoulder and simple fracture of the upper end of the humerus will be combined. The principal symptom of shoulder dislocation is the absence of the head of the humerus from the glenoid cavity and, as a corollary, its situation near by. As in simple dislocation, the sign of the epaulet is present, but the humeral insertion of the deltoid is perhaps not so protruding because the axis of the limb is not greatly deviated unless the fragments of the fracture are impacted. The concomitant signs of fracture are the nontransmission of movements imparted to the arm, the ease with which the limb can sometimes be moved, but above all bone crepitation. The latter sign will not exist when the fragments are far apart or when there is impaction, both of which are infrequent. Instead of abduction found in simple dislocation the arm may lie near the trunk, and another symptom is that the movements of rotation of the arm are not painful to any extent in simple dislocation, while when fracture exists the pain is severe. There is almost always shortening of the limb varying from a half to one inch. Finally, when the arm is seized at the shoulder and the limb raised in the direction of its axis a movement of

ascension can be imparted to it that cannot be produced in cases of simple dislocation.

Besides these special symptoms there are the general symptoms of dislocations and fractures, namely, ecchymosis, swelling, and functional impotence. Here, as in simple dislocation, there is paralysis of the deltoid, undoubtedly due to contusion or stretching of the circumflex nerve. This paralysis usually retrogresses unless the reaction of degeneration is present which proves that the nerve has been involved in its vitality. Lesions of the brachial plexus are rare so that disturbances of mobility and sensibility in the corresponding area are exceptional. However, the patient may sometimes complain of severe pain at the lower third of the radial side of the forearm when the arm is moved, this pain being perhaps due to compression of the radial nerve by the callus.

Complications are infrequent in shoulder dislocations complicated with fracture of the humerus. Wounds of the integument are rare. Some instances of vascular lesions have been reported. In one case the axillary artery was run through by a fragment of bone, and in two reported instances there was compression of the vessels and rupture of the internal and middle tunics with stretching of the adventitia. These lesions were made manifest by absence of pulsation in the radial and brachial arteries, as well as by coldness of the limb. Lesions of the nerves are still more uncommon and we know of no case in which the radial nerve has been comprised in the callus as occasionally occurs in simple fracture of the humerus. A complication that is to be feared and should be avoided is stiffness of the joint, because the scapulohumeral articulation becomes quickly ankylosed and destroyed, as Malgaigne long since pointed out. Therefore, early mobilization should be the basis of treatment of these cases.

The evolution of the injury will depend upon the extent of the lesions and the surgical treatment employed. When left alone there is but one result, namely, ankylosis. The prognosis from the viewpoint of function is always serious, because the arm will never recover absolute integrity of its movements. But if mobilization, massage, and electricity are resorted to within a week or ten days after the injury has been received, the patient will at the end of three or four weeks be able to put the hand of the injured arm on the opposite shoulder or on his back, a result not obtained for several months when other treatments are adopted. Abduction is the movement most slowly recovered.—(*Med. Rec.*, Jan. 14, 1922.)

Indications and Contraindications for Spinal Anesthesia.

Although an effort has been made by many surgeons, especially Chaput and Jonnesco and their collaborators, to make spinal anesthesia a routine procedure applicable in all kinds of operations in all regions of the body, taking the place of general narcosis with ether or chloroform, it is probable that the majority of surgeons at the present time regard it as a method applicable only in certain cases. This is unquestionably the most rational view.

Spinal anesthesia, whether produced by stovaine or similar drugs, has its indications, and it is evident that the principal indication is the site of the operation. In spite of the enthusiasm for this form of anesthesia and its extensive use, particularly in Rumania by Jonnesco's technic, it is nevertheless true that it is particularly indicated in operations on the lower limbs in the anoperineal region, on the pelvic organs, and in gynecological operations in general. Many surgeons maintain that it is to be used only in operations involving structures below the umbilicus, but experience shows that when Jonnesco's technic is employed with exactitude and manipulated by skill and prudence, the indications can be extended to all cases in which a sufficient anesthesia can be obtained by an injection given low down, that is to say, in the dorsolumbar region, consequently in the majority of abdominal operations.

In those cases where spinal puncture must be made in the dorsal region in order to obtain the necessary anesthesia, that is, for operations on the thorax and upper limbs, a certain reserve is in order. It cannot be denied that many surgeons, and Jonnesco in particular, have obtained perfect anesthesia without accident by high puncture, but, generally speaking, the anesthesia obtained in these conditions is often imperfect. The technic is more difficult and necessitates great skill on the part of the operator, not so much for the puncture itself as for the position in which to place the patient, as well as the dose of anesthetic employed. Spinal anesthesia would seem to have exceptional indications in operations on the skull, face and neck, as its use here entails real danger.

There are other considerations involved in the use of spinal anesthesia beside the site of operation. It possesses unquestionable advantage in army surgery or in country districts, as it does away with the necessity of an extra assistant often difficult to obtain. It also has advantages of another character.

The patient, although insensible to pain, is conscious during the operation and in cases where the patient's consent may be necessary for extending the field of the operation, this is of the utmost importance to the surgeon.

Lastly, in a general way it may be said that lumbar anesthesia is indicated where there are contraindications for general anesthesia on account of organic cardiac lesions, a renal or pulmonary process, or a profound organic decline. Jonnesco maintains that there are no contraindications for spinal anesthesia, but in spite of this high authority we believe that in operations on the head and neck this form of anesthesia is distinctly contraindicated unless any other procedure of narcosis is impossible, a condition unlikely to be met with in practice. Jonnesco believes that age has no bearing on the indications for the use of lumbar anesthesia, yet some competent observers maintain that it is more useful in elderly subjects than in the young because of the thickness of the *seaghiola*, which prevents diffusion of the anesthesia solution. Another contraindication is chronic suppurative processes of the viscera, such as arteriosclerosis and affections of the central nervous system, as well as renal or hepatic insufficiency when these are detected, as they should be, before operation is undertaken.—(*N. J. Med. Jour.*, Feb. 1, 1922.)

Advantages and Disadvantages of the Transverse Abdominal Incision.

William J. Moore, of Glasgow, gives these advantages:

1. Anatomically and physiologically correct.
2. Does not destroy the nerve supply of the muscles.
3. The muscular fibres being cut at right angles to their long axes, healing is more rapid and thorough.
4. Almost perfect apposition of the wound surfaces after suturing, it being the natural tendency of the margins of the wound to come together so that there is practically no strain put upon the sutures at any time.
5. As the fibres forming the anterior wall of the sheath are running transversely, and the stitches are entered at right angles, the risk of tearing of the fibres is greatly lessened.
6. Easy access to any part of the abdominal cavity.
7. Retractors rarely if ever necessary; therefore surfaces of wound not bruised or injured.
8. Less shock to patient, owing to absence of retraction of margins of incision.
9. Abundance of room, and complete freedom for all abdominal work.
10. Complete view of abdominal cavity and its contents; therefore the risk of swabs or instruments being left behind almost nil.
11. Easy delivery and replacement of viscera.
12. No tearing of peritoneum when being closed.
13. Practically perfect apposition of margins of wound; therefore no dead space for post-operative blood-clot, or serum, to collect and delay the healing process.
14. As the line of incision is in one of the lines of cleavage of the skin it is, after a few weeks, almost unobservable.
15. Very little if any postoperative pain.
16. If the patient be sick at any time subsequent to the operation, the pain in and around the incision is very slight, because the edges of the incision being firmly approximated, there is less tendency for them to separate.
17. Drainage with a transverse incision is much more efficient.
18. Post-operative convalescence, as a rule, in uncomplicated cases, is practically uninterrupted, because there is less shock at the time of operation and less post-operative pain.
19. Average length of time in bed is less.
20. Post-operative ventral hernia is very rare.

Disadvantages

As regards disadvantages, the only one of moment is the prolongation of the operation by perhaps two to five minutes; this, in the majority of cases, is negligible. It is questionable as to whether it does prolong the duration of the operation; because, while time is lost at one part, it is amply compensated for by the time saved in practically all other stages of the operation. The author has never had any trouble, nor seen any trouble occur in any case, where approximation of the wound margins had been accurately obtained. In one or two such cases where such trouble did occur, it was found upon investigation that two or three of the deep sheath sutures had given and a small amount of oozing had taken place.—(*Am. Surg.*, Jan., 1922.)

Flint's murmur (secondary murmur with a rumbling sound frequently heard at the apex of the heart in aortic incompetency) takes its name from Austin Flint (1812-1886), famous American physician.—(*Med. Facts.*)

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Church Attendance from Two Angles

Professor Rudolph M. Binder, of New York University, in his "Health and Social Progress," expresses the belief that as men become more vigorous they cease to attend church. The churches are kept going by people of low vitality who need help of many kinds and are not enamored of positive action, which men in good physical and mental health crave. Professor Binder finds that it is the weaklings who are most disposed to piety of the more intense sort, because they are aware of their own instability and lack of self-mastery, due to low vitality. The most orthodox churches are the only ones that grow, because they promise the weak man every possible help. When actually seeking relief from his own instability, a man will not stop to inquire into the ability to make valid the claim of assistance, but grasp at any proffered aid. Professor Binder affirms that church attendance is declining for the reason that our social progress carries with it an improved state of the public health.

But there is another factor which has to be considered as of equal importance. The hold of the clergy upon women is less secure. It is a trait in sexually repressed women to fall in love with the unattainable; to adore the aloof, cultured, saintly, scholarly, masterful, charmingly ascetic gentlemen of the cloth; they are to be worshipped romantically but not to be really possessed. This was all very well when such males were to be found hardly anywhere but in orders. Many of these women are now "out in the world" and are meeting there both the attainable and the unattainable; whether these women have gotten rid of their repressions or not the clergy lose out. There are many priest-like men out-

side of the church nowadays, either to be chastely adored and pursued and communion with or even captured. They are to be found in the Bush Terminal Building as well as in the cathedral. There are saints and scholars and artists and professors to be known and worshipped in close-up relationships. Why then should the once so charming ascetic of the church be longer cultivated and the hem of his garment so exclusively kissed? His competitors now exist in overwhelming numbers. His mystical monopoly is gone.

Nothing is to be gained by admitting women to sacred orders, for men will not adore the unattainable; their function and instinct is to attain. They will not strive to attain unattractive women or even be interested in them, and if the women be attractive they will rob the pulpit of them. Certainly such women in orders will not keep other women in the church.

Professor Binder has discussed this question with reference to the men who are falling away from the church. We have ventured to discuss it with reference to the women. The matter is now in proper perspective—and the issue more challenging.

Movie Dynamite

That the movies influence markedly the psychology of the mob is axiomatic. The rank sentimentality and brutality, for example, of so many of the film episodes, is deepening imbecile and cruel veins in the minds of the masses, and what is absorbed from the pictures finds expression elsewhere.

Such things are disquieting, since the mob, God knows, is already rich enough in unlovely traits, but not so disquieting as another phase of this subject. We refer to the graphic representations in numerous films of social cataclysms like the French and Russian Revolutions, in which the details of red revolt are luridly screened. When it is remembered that but few spectators of these films ever read history, and have no great social perspective, the effects of this vivid and incessant visual bombardment cannot but be demoralizing. They are not educational but dangerously disturbing. These distortive and unscholarly films are usually prefaced by some projected remarks intended to be reassuring as to the beneficence of the audience's own government and institutions, and as to the spectator's own political and economical content, but they always seem sardonic, and are at once forgotten in the emotional orgy that follows. They can be discounted altogether in the case of the numerous illiterates who frequent the movies in some parts of the country. In this connection it is well not to forget that even Bulgaria is less illiterate than the United States.

Professor William Starr Myers of the Department of History and Politics of Princeton University, from various investigations has found that of our 105,000,000 population, 45,000,000 belong in the subnormal class, full intellectual development meaning that they have a mental age of twelve or thirteen, and that 15,000,000 are feeble-minded, or of the average intelligence of a child of eight years. The bearing of these facts upon our subject is obvious.

No better proof of the stupidity of our Security Leaguers and others of their kind could be cited than their attitude toward relatively harmless and frequently misunderstood aliens and radicals while the potentiality of the dynamic force under discussion is wholly missed. It is not unreasonable to believe that these precious Leaguers belong in Professor

Myers' subnormal class. While a smoking bomb is being slipped over on them the imbeciles stand oblivious.

A steady diet of movie lynchings, it will be admitted, would not minimize the danger of spreading this reproach to our civilization in sections hitherto free from it. What value would a few admonitory words by way of preface to such scenes have for the teeming morons who gloat over the killings on the screen? We could not conceive of a more effective way to promote this curse of a halting civilization.

Social hygiene and health would be in no way furthered if the movie people were to spread broadcast representations of vice in its most seductive forms on the pretext of revealing its evil potentialities. In the same way political and economic health is not furthered by a continual presentation of red revolution on the pretext of revealing the reasons for historic revolts.

There is sufficient unrest in the country without intensive exposition of the methods whereby the overthrow of political states may be encompassed.

It would be only a question of time, if these performances were to be permitted by Mr. Will Hays to continue and to undergo intensification, before the movie fans of the country were imbued with the psychologic traits of the South American peoples. Why ignore this patent probability?

If there were any good reason for fanning the spirit of revolt into flame we could conceive of no more insidious means of preparing the masses for the debacle.

If there is any good reason then the makers of these films must be viewed in the light of intellectual John Baptists, as spiritual descendants of the constructive iconoclasts of the past, motivated as were their prototypes in France and Russia but utilizing new methods.

Long live the Revolution! Let the bloody panorama repeat itself.

Next time you may depend upon the movie men being on the ground with their cameras.

Is it the dearth of this stuff of life that makes the scenario fiends long for repetition, with gruesome innovations?

Is the wish the father to the thought?

Or is this whole matter merely a short-lived joke on our Security League Tories and paytrioters on the part of persons with an odd sense of humor?

We wonder.

Cod Liver Oil

The faith of the older physicians in cod liver oil has been more than justified by present-day biochemists. Now we are told by McCollum that there are two dietary principles operating in this substance, one a vitamin concerned with the causation of ophthalmia, the other a vitamin regulating calcium and phosphorus metabolism; McCollum has produced rickets in rats by appropriate diets and then demonstrated the curative effects of cod liver oil in which the former vitamin has been destroyed by oxidation.

Such researches deepen our respect for the ancient empiricists and tend to make us distrust the zeal so conspicuous in certain high quarters for retiring so many of the older remedies with good records. In too many cases we shall only have to resurrect discarded drugs in the light of new knowledge.

Festina lente, brethren.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

Vain Hopes

It is to be regretted that we have no Gilbert and Sullivan in this country to pillory the prohibition and narcotic and health insurance fanatics and bunglers, since they are not amenable to reason or any of the ordinary means of persuasion or education. What Pinafore and the rest of that brilliant series of musical creations did for British sanity ought to be done for us, but the art of the kindly satirist has not yet been born in America. There is a rich field for wit and musical genius that is lying untilled before us. Let us pray for a Yankee Iolanthe and a Mikado, so to speak, not imitative, but native and original.

There is no lack of a humor sense and a huge and appreciative audience. When did competent artists ever have such an opportunity?

And then there is the Government at Washington. What a wealth of material lies there. And the Punch and Judy show staged perennially by the two major political parties. There is Bakhmetieff. And—but what's the use? There is no end to the pleasant vista, and we, alas, are not artists.

Our eye has just fallen upon a skit in one of the Sunday newspapers by Hays Montgomery, who lays his scene on the good ship "Pinafore," operated by the Shipping Board. The operetta is entitled "U. S. S. Pinafore, or the Lass Who Loved Her Liquor." The curtain rises on the ship's bar, where the bartenders, "sober men, and true, and attentive to their duty," are dispensing. This affords a splendid opportunity for one of those "Chorus of Nations" numbers. Enter British Ale, German Beer, French Champagne, Italian Vermouth and—American Moonshine! Enter then the *ingénue*, singing "For I'm called Little Claretcup, dear Little Claretcup, though I could never tell why." Then the Admiral struts proudly on and sings that he polished up his passengers so carefuller, that now he is the Ruler of the Board's Navee. And the Captain sings his sentimental ballad at night on the deck, with "moonshine" from the wings: "Fair moon . . . Say, why is everything at sixes or at sevens?"

But this sort of thing, while amusing, betrays a total lack of the creative imagination. Clever mimicry seems to mark the limit of our powers.

Unless we produce some first-rate artists of the type under discussion the country's sanity is imperiled. It is really impossible to overestimate the wholesome effect upon a nation of an art which serves to compensate and to balance in the manner suggested.

We lack a spiritual foil for the uplifters, hard-boiled reformers, in-deadly-earnest snoopers, smut-hounds, puritans, kill-joys, ku-kluxers and tear-squeezers who infest the country. Our deliverance from them rests with artists of whom, at present, we appear to have none, and whom, if they did appear, the censors of a so-called morality would attempt to crush.

Schultze's cells, granule masses, etc., were named for Max Johann Sigismund Schultze (1825-1874), German microscopic anatomist.—(*Med. Facts.*)

Schwann's membrane, sheath, etc., derive their names from Theodor Schwann (1810-1882), German physiologist.—(*Med. Facts.*)

The Physician's Library

Adventures in Endocrinology. By Henry R. Harrower, M.D., Director of the Harrower Laboratory, Glendale, Cal.: The Literary Department of the Harrower Laboratory, 1922.

Readers of book reviews in medical journals are prone to take them slightly even when well written and imbued with earnest thought, for to them these book reviews are machine-made of necessity because the books under discussion are also machine-made. There is no doubt that only too often the reader is right, for the general run of strictly medical books is really not worth while and the reviews are necessarily of the dry-as-dust order that contain the oft-repeated platitudes so easy for the reviewer to reel off.

If this is true of medical works and the reviews thereof, how much more applicable is what has just been written in regard to books reviewed in medical journals which are somewhat removed from medicine, are of a controversial nature, or are of the sort that belong to belles-lettres. In these instances the reviewer falls down completely, for the books in most instances are of a nature that demands small notice from the reviewer.

An altogether different book, and one that should command the closest attention on the part of the reviewer, is Henry R. Harrower's "Adventures in Endocrinology," for the dominant note is a commanding one, and of value to all, since it concerns itself with the righting of a wrong. Dr. Harrower wishes to place himself before the public in his proper dress, the dress of an honest man who is candid enough to affirm that he is not ashamed of being commercial, if commercialism means to make a living out of what he conceives to be an idea of worth and value and of benefit to the public. His presentation of the theory of pluriglandular therapy and the administration of single glandular extracts has been unabating, and despite a deal of acrimonious criticism from the *Journal of the American Medical Association* and a number of physicians who are opposed to his teachings, his success—non-commercial, this time—has been above question.

But we do not desire to take up in this review the convolutions and involutions of controversy—the start with dignity and the finish with bickerings on the part of detractors. What interests us is the "liveliness" of the book and its undoubted literary merit. These features are outstanding, and the reader, if he is the sort we take him to be, will at once be held by them. And for long, too, for in this book are instanced a mental poise despite drastic criticism covering a number of years, an outlook that breathes sanity, and a desire to state facts as they really are, without too much praise of self or too much dispraise of others. And over all the statements there is spread a sense of good feeling toward others, an expression that we are all human, perhaps too human. And this sense is embodied in a literary form that is most diverting and robs the controversy of all those sharp edges which tear into the amour-propre of opposing factions. Let us add that if it were only for the Dedication, which is felicity of thought carried to the nth degree, this book of 159 pages would be very worth while.

Clinical Diagnosis. By Alfred Martinet, M.D., of Paris. Translated by Louis T. de M. Sajous, M. D. of Philadelphia; 2 volumes; 3rd edition. Philadelphia: F. A. Davis Company, 1922.

The third edition of this splendid work on clinical diagnosis has made its welcome appearance. The volumes are based on case examination and the analysis of symptoms. The authors believe that if we were to give a patient rational treatment we must know what we are treating; in other words, they rightly feel that the basis of treatment is correct and complete diagnosis. In these volumes they have demonstrated how to make a proper diagnosis and if the members of the medical profession were to follow out all of the lines set forth in these pages they would have little difficulty in giving the patient the proper kind of treatment.

Volume 1 is devoted to medical procedures of a diagnostic character, taking in the examinations of every part of the body.

Volume 2 is devoted entirely to symptoms and it is an extremely practical and eminently useful treatise. Indeed we do not hesitate to say that these volumes are among the most valuable that has been presented to the profession in the consideration of diagnosis.

Diseases of the Stomach and Upper Alimentary Tract. By Anthony Bassler, M.D., of the New York Polyclinic. 972 pages. Philadelphia: F. A. Davis Company, 1922.

It is quite unnecessary to give a critical review of Dr. Bassler's excellent book. That it is of value is attested by the fact that in 12 years five editions have appeared. He has brought the present edition up to the minute. There has been added to the previous editions the latest accepted work in the section of

gastric juice motility and sensation. He has gone more deeply into the matter of the x-ray and its use in diseases of the stomach. The subject of duodenal and rectal feeding is discussed in more detail and in short everything that is new in this most important field of medical labor has been discussed by Dr. Bassler thoroughly and completely. It is a pleasure to gain attest to the value of this book.

Diseases of Infancy and Childhood. By Louis Fischer, M.D., of the Willard Parker Hospital, New York; 9th edition; 2 volumes: Philadelphia: F. A. Davis Company, 1922.

Our old friend, the Fischer system of treatment of children's diseases, again makes its appearance, the ninth edition in 15 years. It is welcomed as we welcome all old friends. This edition contains so much new matter that the publishers have been compelled to produce this book in two volumes and they have done a splendid bit of work by giving us two handsome, well illustrated, and excellently printed books.

The first volume is devoted to the anatomy and physiology of the child and its digestive tract. Nutritional disturbances are carefully considered and the author also discusses diseases of the various systems and organ of the infant.

Volume 2 is devoted to infectious diseases and diseases of the blood, glands, brain, nervous system, eye, ear, skin, spine and joints. One of the most valuable features of the books are the last few chapters which are devoted to miscellaneous suggestions, concerning the administration of drugs, drug dosage, etc. This book has long been considered one of the standards in the field of pediatrics and the ninth edition is, we consider, far superior to the others.

Management of the Sick Infant. By Langley Porter, M.D. and Wm. E. Carter, M.D. St. Louis: C. V. Mosby Co., 1922.

In this book the authors have successfully given the physician a volume on the care and management of the sick infant.

They have grouped the various ailments of the child under the headings of the particular systems involved, and in the descriptions have laid especial stress on the manner of treating the condition rather than simply mentioning the remedial agents to be used. There is also a chapter on the causes of vomiting, the management of the various diarrheas, and another on pain and tenderness in the different regions.

The chapter on methods, comprising over one hundred pages, is especially good, telling of the equipment required and the exact procedure to be followed in intravenous injections, colonic flushings, mustard packs, auscultation, paracentesis, etc.

This is immediately followed by a chapter on formulas and recipes, showing how different kinds of milk are to be made, and how to sterilize, pasteurize, make soups, gruels and desserts.

Thirty pages are devoted to prescriptions for various diseases which are listed alphabetically, and a few pages are given to poisoning, its general treatment and specific antidotes.

Surely the physician can find in these 640 pages whatever information he requires to properly care for the sick infant in his keeping.

Results of the Modern Treatment of Syphilis

Van den Heuvel states that 577 cases have been treated in the venereal department of the Naval Hospital at Willemsoord, Holland, by the following methods: (1) Mercury only, 184 cases; (2) mercury followed by neo-salvarsan, 190 cases; (3) combined treatment, 203 cases. In the first group the Wassermann reaction became negative in 52.1 per cent.; in the second group in 60 per cent.; and in the third group 63.5 per cent. Tertiary and parasyphilitic symptoms developed in spite of treatment in 4 per cent. of the first group; in about 5 per cent. of the second group; and in about 0.5 per cent. of the third group. In the third group also 2 cases developed iritis, 2 chorio-retinitis, and 1 retinitis during treatment. Van den Heuvel concludes:

(1) Although the modern treatment by neo-salvarsan and mercury combined yields better results, especially as regards rapidity of cure, than treatment by mercury alone, they are still far from satisfactory.

(2) Examination of the cerebro-spinal fluid should be made (a) after a cure intended to abort the disease, (b) after incomplete treatment, (c) in cases in which the Wassermann reaction remains strongly positive in spite of long continued treatment.

(3) The time is not yet come, nor is the treatment of syphilis sufficiently uniform, to enable one to decide whether parasyphilis is more frequent as the result of modern treatment. (*Nederl. Tijdschr. v. Geneesk.*, December 17, 1921).

Correspondence

Spirit and Life.

To the Editor of THE MEDICAL TIMES:

There is so much discussion at present of "double" or "multiple" personality that I venture, as a student of the subject for many years, to state a few facts which, I believe, will be self-evident to your readers.

We speak about life. We say we see it all about us, but we do not see life; we only see the manifesting instrument through which it is expressed. The blade of grass, the rose or the giant oak: It is all the same outward expression.

Again we speak about life when we speak of this or that animal, be it a bird, reptile, fish or man. You do not see its life, you only see its manifesting instrument through which that bird, reptile, fish or man is expressing the life within.

That blade of grass, that rose or the giant oak, has organs that functionate and cause them to grow and produce or express. Those organs are the roots that absorb moisture and nutrient from the soil that they may build its body, the leaves may breathe oxygen and exhale poisonous gases. This expression is called vegetable intelligence.

On the other hand, the animal has different organs to meet the purpose of body building. For instance, the stomach for the digestion of food, the liver for the secretion of bile, and a pancreas for the secretion of pancreatic juice, all to aid in the preparation of food as nutrient for the purpose of building that body and countless other processes.

The heart pumps the nutrient fluid to all parts of the instrument called the body. It is ultimately converted into bone, muscle or fat, in the process of body building, and in turn, heat and energy. So I might go on through hundreds of processes which take place in building a body, independent of consciousness. This appropriating of food by the body is to be compared to vegetable intelligence.

In the vegetable we have intelligence without consciousness. It selects, adapts, and appropriates for its body that which it requires, and discards that which it does not need, without knowing, planning, or thinking; while on the other hand, man is endowed with vegetable and conscious intelligence. The vegetable act is the digestion of food, the secretion of bile and pancreatic juice, intestinal action, circulation of blood, the functioning of the kidneys, etc.; all are independent of consciousness, that is, they go without our knowing. The difference between man and vegetable is that man, being a conscious personality, plans, thinks, and reasons. This is brought about through sense organs in animal life, while vegetable life have no sense organs.

Function then is what a thing does. The functioning of the sense organs brings us into conscious relationship with outer nature, namely seeing, hearing, tasting, smelling and feeling. This is mind, and mind is an attribute of the soul, and if immortality is a fact, we take mind with us into the next life. If we take mind into the next life, we must necessarily have sense organs to functionate there, or of what use would it be for us to take mind with us? If we do not have sense organs in the next life, how will we know our loved ones or they know us?

Yes, we have another body (soul) and that body is an exact replica of this to the minutest detail, and ever we will have, so to speak, a soul within a soul; or in other words, as our clothing covers our physical body and this clothing is cast off exposing our naked body, so at death we cast off the physical body liberating the soul. So there is another soul within soul or body, awaiting the next step in progression. As we progress in the next life, the manifest instrument (soul) is discarded for a new one in a higher state of vibration than the one discarded, because the new body must be suited to the environment in which it is to manifest.

All life is brought forth through a seed, and within the confines of that shell called seed is locked the life principle. That principle can only begin its manifesting by all requisites being furnished, namely heat, moisture and darkness. Then that seed will germinate and bring forth. Its kind varies only under long heredity and environment, and eventually it will discard one organ for another to suit that environment, and finally a new species may be developed. We can see this in our physical body. For instance, the tonsils, appendix and many other organs are useless. In fact, we are not today what we were a thousand years ago, nor are we today what we will be a thousand years hence. We have evolved, without question, from the simplest form of life to the present day, and we shall always continue to evolve from lesser to greater throughout eternity.

I must say a few words on the foundation of all matter, irrespective of kind, and that is the electron. The electron is the smallest particle of matter known to scientists. A wine glass half full of water will hold more electrons than the Atlantic

Ocean will hold gallons of water, and yet each electron is a sphere revolving on its own axis in orbits around other electrons in an orderly manner, never touching one another. Each electron is a charge of negative and positive electricity. Its function is to explode, and at each explosion it discharges the electricity with which it was charged, and at the same time recharges itself. Thus if an electron is a charge of electricity, electricity must be free and independent of the electron, or it could not charge it. Hence the purpose of an electron must be for the changing or refining of electric energy.

Now to sum up, as the electron is the foundation of all matter, and its function is to explode and liberate electricity, so the vegetable, and the animal, is the instrument of the spirit of life, but not life itself.

So our materialistic scientists who tell us that life is dependent upon matter and perishes with it must first tell us what it is, and then produce it artificially without antecedent life. They only tell us of the bodies through which life manifests and not what it is. They tell us what an electron is, as I have explained, but that is not explaining what electricity really is any more than they can explain the life principle. In my humble judgment, life will ever remain God's secret, and life is spirit.

I have said that conscious mind is brought about through the functioning of the sense organs. Then subconscious mind is that knowledge which has doubtless passed in through the sense organs, independent of consciousness, into the cells of the brain, and there stored as memory. For instance, take a normal man through an art gallery, say for half an hour, and instruct him to observe all that he possibly can. Now, after leaving the gallery, have him to tell you what he saw, then hypnotize him and again take him in the gallery for the same length of time. After coming out, have him repeat what he saw this time, and you will be surprised as to how much he saw compared with when he was in the gallery the first time and while in an un hypnotized state.

I want to say right here, I believe the subconscious mind theory is much overworked in trying to explain away the spiritistic theory.

My conscious mind is the I. It is my personality. This splitting up of personality into dual or multiple personalities I cannot accept, because a part of my personality cannot know more than my whole self. As for the knowledge which has evaded the sense organs, in entering the memory cells of brain called subconscious mind it is handed up in trance conditions, often as facts known to others, and at other times is strongly evidential of spirit communication. It is by far more strain on credulity to accept dual and multiple personality, or splitting up of one's self into two or more separate and distinct personalities, than it is to accept just what they claim to be, the spirits of those who once lived in physical bodies as we now live.

I have tried to show that all bodies, from a tiny electron, blade of grass, mighty oak or human frame are but the instruments by which spirit, or life, is expressed. Spirit is life, and as such it is unexplainable. Then obsession from the world of disembodied minds is entirely within logical reasoning, for in trance states that is exactly what takes place. In other cases the personality is forced out and another takes possession as in the case that Dr. Walter Prince recently investigated, and there are countless others similar to this one. Possession can be, and, I believe, is a fact. There is nothing illogical or unreasonable about it.

Camden, N. J.

WILSON G. BAILEY, M.D.

In Re Vitamins.

To the Editor of The Medical Times:

In the matter of the loose employment of vitaminic preparations Dr. W. F. McNutt presents most sensible opinions. It goes without saying that the commercialization of such preparations has become a business of considerable proportions, and the consumption of the alleged concentrations has become a fad.

So far as is known, artificial concentrations of vitamins, A, B, or C, whether chemical or physical, have failed to remain stable; even though a concentration may be prepared, there can be no guarantee that the vitamins will remain potent any considerable length of time.

Vitamine A is plentiful in butter fat. According to an authority of the British Medical Journal cod-liver oil contains a proportion more than 200 times as great. Cod-liver oil therefore may be regarded as a natural concentration of the vitamine.

Vitamins B occur plentifully in yeast and are readily preserved therein. Yeast therefore may be considered a natural concentration of them. Anyway, several altruistic corporations are working the yeast racket for all that is worth. When not overcooked, oatmeal contains a goodly proportion of vitamins B. Overnight cooking destroys them.

(Concluded on adv. page 20)

ANNOUNCING
A new **NON-NARCOTIC** Drug
ALLONAL "Roche"
which is both
HYPNOTIC and ANALGESIC
*ALLONAL which is administered orally in tablet form, is a prompt, efficient sedative, hypnotic and analgesic, capable of **Controlling pain** and **producing sleep** in the many conditions in which Morphine and other narcotics have hitherto been the only recourse*
Supplies and Literature will be furnished on request
The HOFFMANN-LA ROCHE CHEMICAL WORKS
New York

The Management of an Infant's Diet

A Temporary Diet in Summer Diarrhea

Mellin's Food 4 level tablespoonfuls
Water (boiled, then cooled) 16 fluid ounces
To be given in small amounts at frequent intervals.

Each ounce of this mixture has a fuel value of 6.2 Calories and furnishes immediately available nutrition well suited to spare the body-protein, to prevent a rapid loss of weight, to resist the activity of putrefactive bacteria, and to favor a retention of fluids and salts in the body tissues.

Mellin's Food Company, Boston, Mass.

Vitamine C, a necessary antiscorbutic occurring in fruit juices, is quickly destroyed by cooking processes, with one important exception. It is plentiful in uncooked tomatoes and a moderate proportion remains in canned tomatoes. It is preserved for a long time in lemon juice; lime juice; on the other hand, contains a smaller proportion. Alkalies destroy, Vitamine C.

Dried peas offer a means for preserving vitamine C almost indefinitely. The dried seeds contain a small proportion, but when they are soaked in pure warm water until germination begins, the proportion increases enormously. Their potency in this condition is of short duration.

A person whose diet includes milk or milk products, the leaf parts of edible vegetables, and fresh fruit, needs yeast and other commercialized vitamins about as much as an oxcart needs a speedometer; and when a person has reached a stage in which vitamin pills have become an obsession he requires the attention, not of a physician, but of a horse doctor.

MT. VERNON, N. Y.

J. W. REDWAY.

Dr. Rusby Leader of Mulford Amazon Expedition Tells of Locating Rare Medicinal Plants.

An absorbing story of the successful search for strange narcotics and new drugs which may prove of invaluable aid in the treatment of human diseases, and the determining of the botanical sources of both the genuine and spurious forms of certain drugs already partially known, was told by Dr. H. H. Rusby at a recent dinner given to the returned members of the Mulford Biological Exploration, by the H. K. Mulford Company, in Philadelphia.

In addition to the guests of honor, there were present some fifty men, leaders in medicine, pharmacy, botany, zoology, as well as captains of industry.

Milton Campbell, president of the H. K. Mulford Co., who presided, reviewed the history of the exploration, its inception in Dr. Rusby's mind, the presentation of the plans to the Mulford Company, and why the company availed itself of the opportunity to support such an enterprise. He pointed out that, throughout its existence, the Mulford Company had contributed, so far as lay within its power, toward the advancement of the professional side of pharmacy and had done its best to disseminate information concerning pharmaceutical and biological products. In this exploration, the company had seen and grasped the opportunity to make another contribution to this end. The fact that it had voluntarily relinquished any control over the results, which are to be freely donated to science, has resulted in the heartiest co-operation on the part of government bureaus, colleges and institutions of learning.

Dr. William C. Braisted, ex-Surgeon-General of the U. S. Navy, and president of the Philadelphia College of Pharmacy, acknowledged that as his acquaintance with pharmacy and with manufacturing pharmacists broadened, he was coming more and more to realize that professional pharmacy rested largely in the hands of the large manufacturing pharmaceutical houses; that his acquaintance with the individuals who controlled the policies of these houses more and more convinced him that these gentlemen were actuated by motives just as high and guided by a standard of ethics just as rigidly professional as those of the highest type of physicians.

He made a strong plea for more intimate union and co-operation between medicine and pharmacy, and for co-operative work between these two professions in investigations of important problems of pharmacology and therapeutics, to the end that knowledge of the curing of disease and the prevention of the same might be advanced much more rapidly and in a more thorough and satisfactory manner than under haphazard methods of the past. He pointed to the Mulford Biological Exploration as excellent proof that such co-operation could be obtained, to the mutual satisfaction and benefit of all parties concerned, and cited its work as a good example of valuable results, sure to come from continuing such policies.

After acknowledging the very graceful tributes received from Mr. Campbell and Dr. Braisted, and also the personal messages from certain leading men who found it impossible to be present, Dr. Rusby spoke of the work of the expedition, its successes and failures, the hardships endured, the provisions made for the health of the party, and the success of their work, and highly complimented his associates on that journey for their untiring industry and courage, giving them full credit for a large share in the success of the work.

Dr. Rusby briefly outlined some of the results of the botanical work, as relating to the science of pharmacy, stating that specimens had been obtained of approximately fifty different drugs, some of them already known, some but slightly known, and others entirely new to science. Among the latter he called special at-

tention to two. (1) The famous Caapi, from whose roots a remarkable and probably a valuable narcotic is obtained. This has been used for ceremonial purposes among certain Indian tribes in Colombia, and Dr. Rusby's original plans included a trip up into Colombia for the special purpose of locating and collecting this plant. Although this part of the plan had to be modified, yet Dr. White, the associate botanist, was successful in locating this drug in certain sections of Bolivia.

(2) The second plant is entirely new to science and comes under the local name of Mire. This, Dr. Rusby thinks, probably contains an alkaloid, and, so far as he could obtain information concerning its effects, is said to cause a mild intoxication resulting from its influence on the motor senses. This is followed by profuse perspiration.

Concerning the Therapeutic Value of Silver Arsphenamine.

Oscar Berghausen, of Cincinnati, says the clinician is still confronted with the probability of reactions following the intravenous administration of arsphenamine and neoarsphenamine. The immediate and slight reactions which follow are common experiences; the later but more severe reactions are much less common but numerous enough to demand our attention. Many more fatalities have occurred than are reported in the medical literature. The writer knows of two which have not been reported; the last one following the intravenous administration of 0.6 g. neoarsphenamine, supposedly a conservative dose.

We are in need of a preparation possessing the highest chemotherapeutic index, by which is meant the ratio of the maximum amount of the drug tolerated to the curative dose, one with which subsequent reactions are slight, never serious, but yielding superior clinical results. The latest modifications which has been placed upon the market is silver salvarsan, the sodium salt of silver-diaminodihydroxyarsenobenzene, in which the silver is in non-ionizable form. By recording our experiences it will be possible to determine its therapeutic value. Already the idea has been expressed that the clinical results are not equal to those obtained with the other products, chiefly because of the fact that reactions do not occur. It may be desirable to obtain reactions in certain chronic latent syphilitics, but this should never be desired unless the clinical condition of the patient has been thoroughly investigated and unless the patient's tolerance for smaller doses has been previously determined.

Diagnosis	Number of			Result	
	Cases	Injections	Reactions	Imp.	Same
Congenital Lues	2	9	1	2	..
Lues	13	53	0	13	..
Cerebrospinal Lues ...	14	44	1	11	3
Tabes dorsalis	8	24	0	4	4
Paresis	2	3	1	..	2
Total	39	133	3	30	9

In the above table the results obtained in treating advanced patients are listed. In this type of case severe reactions should be avoided because of the mental as well as deleterious effects which may be produced. In my own experience it has been found more advisable to repeat small doses than to risk the marked reactions which may follow the administration of larger doses, unless the tolerance of the individual has previously been determined. In the 133 injections, mostly containing 0.2 gm. and 0.3 gm. each, only three reactions were obtained, two of them were slight, and the other accompanied by loose bowels in a paretic who was unable to tolerate the older arsenic preparations as well as mercury. The initial dose was usually 0.1 gm., followed by 0.2 gm. injection in 4 or 5 days, and then by 0.3 gm. in case no reaction occurred. Improvement occurred very readily in those suffering from lues, congenital lues, and cerebrospinal types of lues; some improvement was noticed in 50 per cent. of the tabetics. In two cases, the intravenous injections were followed by intraspinal injections according to the Swift-Ellis technique, with no reactions.

The patients all express a willingness to take another injection because no severe headaches nor gastrointestinal disturbances follow. Those who previously had been unable to take arsphenamine or neoarsphenamine without the production of symptoms, could readily take this newer preparation and suffer no ill effects. Improvement in the clinical condition was as marked as when the older preparations had been used.

The Wassermann reaction, using both cholesterinized and plain alcoholic antigens and the method of icebox fixation, thus far has been determined in only twelve cases before and after the treatments. These results show that in 3 of the 12 it was possible to change the reaction from distinctly positive to negative, in 2 it was made less intense, and in 7 of the 12 or 58 per cent., it remained unchanged.—(*Med. Rec.*, Nov. 26, 1921.)

"Just What a Ligature Should Be"

Armour's Catgut Ligatures, Plain and Chromic, boilable, strong, absolutely sterile, 60-inch, 000 to 4 inclusive.

Iodized Catgut Ligatures, non-boilable, strong, sterile and very supple, 60-inch, 00 to 4 inclusive.

\$30 per gross. Discounts on larger lots.

Also emergency lengths (20-in.) Plain and Chromic—\$18 gross.

ELIXIR OF ENZYMES

—aid to digestion and vehicle for iodids, bromides, etc.

SUPRARENALIN SOLUTION

—astringent and hemostatic.



ARMOUR AND COMPANY
CHICAGO

PITUITARY LIQUID

—ampoules, surgical 1
c. c., obstetrical $\frac{1}{2}$ c. c.

6 in a box

LISTERINE

A Non-Poisonous, Unirritating Antiseptic Solution



Agreeable and satisfactory alike to the Physician, Surgeon, Nurse and Patient. Listerine has a wide field of usefulness and its unvarying quality assures like results under like conditions.

As a wash and dressing for wounds

As a deodorizing, antiseptic lotion

As a gargle

As a mouth-wash dentifrice

Operative or accidental wounds heal rapidly under a Listerine dressing, as its action does not interfere with the natural reparative processes.

The freedom of Listerine from possibility of poisonous effect is a distinct advantage, and especially so when the preparation is prescribed for employment in the home.

LAMBERT PHARMACAL COMPANY

ST. LOUIS, MO., U. S. A.

New Field for Research

Loeser, in an article entitled "*A New Field for Pharmacological and Therapeutic Research*," N. Y. M. J. October 19, '21, states the basic, scientific principles on which his pharmaceutical work is founded. He draws attention to the fact that the therapeutic value and pharmacologic action of certain remedies are based on the effect upon the colloidal state of the blood stream and body fluids, which in turn effect the respiratory and chemical exchange between the tissue cells of the body. He compares the effect of remedies introduced to the effect of bacterial and elementary proteins on the colloidal state of the blood stream and body fluids.

Loeser, for the first time in medical literature, demonstrates the establishment of scientific facts underlying the action of certain remedies which obey the laws recently established in the study of colloids. Briefly, that remedies of elemental substances act as electrolytes on the blood, which he points out is a typical colloid fluid, with the erythrocytes in suspension in the plasma, a hydrophile colloid; and that the intensity of the activity of these elemental remedies is based on their valence.

He demonstrates that the monads such as iodides, are tolerated in large doses; the diads such as calcium are more active; and that the triads, arsenic, antimony and iron are the most toxic group, and produce profound changes in the colloidal state of the blood and tissues.

Complete reprints on Request. Address "*Journal of Intravenous Therapy*," 100 West 21st Street, New York City.

Bacterial Irritants in Hay Fever

That pollen irritation favors the development of pyogenic bacteria in the respiratory tract and that the bacterial irritation which develops becomes a primary factor in hayfever is now gaining recognition.

Dr. William Scheppegrell, President American Hayfever Preventive Association, has just published a book on the subject of Hayfever and Asthma in which he states:

"If the patient applies for treatment during an attack of hayfever, the pollen extracts are usually ineffective, and a vaccine should be used, these being injected at intervals of one or two days until the severity of the attack subsides." . . .

"Our reason for using the vaccine during severe paroxysms is that all this time the patient is suffering, not only from the effects of the pollen protein, but also from the great increase in the pathogenic microorganisms resulting from the lowered resistance of the respiratory membranes. The use of vaccine therapy at this state is therefore logical, and has given us satisfactory results."

"We use three forms of stock vaccines, each containing 1000 millions to the cubic centimeter in various proportions of the following microorganisms: *B. Friedlander*, *M. catarrhalis*, *pneumococcus*, *Streptococcus pyogenes*, *Staphylococcus aureus* and *albus*."

It will be observed that the formula employed by Dr. Scheppegrell is for all practical purposes identical with Sherman's No. 36.

In this connection it is interesting to note that Dr. G. H. Sherman was the first physician to call attention to the role played by pathogenic microorganisms in hayfever and to utilize therapeutic immunization with bacterial vaccines in this disease, to control the complicating infection. And as Dr. Serman says, in his book *Vaccine Therapy in General Practice*—"We know that pathogenic bacteria are always liable to invade accessible tissues where normal resistance has been lowered by irritants. Pneumococci, streptococci, staphylococci and other organisms are found on the mucous membrane of the nose and throat of the most normal individuals and in hayfever cases these organisms are found in abundance. That these organisms are important complicating factors and are responsible for much of the irritation and most of the fever is quite apparent."

Here are immunizing influence of bacterial vaccines is of real value in the treatment of hayfever. By this means sufficient resistance to these pyogenic organisms is developed to prevent them from becoming infective agents following the pollen irritation. The result is that the patient either goes on to complete recovery or the disease runs a modified course, the pollen irritation being the only factor left, which causes comparatively little distress."

Hayfever and Asthma, Scheppegrell, Lea & Febiger, Publishers.

Peralga

Peralga, a new synthetic for the treatment of pain, possessing a highly potentiated action, especially adapted to the relief of

manifestations customarily referred to as "headaches," is the most recent addition to the list of well-known medicinal products marketed by Schering & Glatz, Inc.

Known in Europe as "Veramon" and originated in the Pharmacologic Laboratory of Prof. Starkenstein, University of Prague, Czecho-Slovakia, well known for his Atophan researches, Peralga furnishes a rather brilliant example of the successful endeavor to intensify a given, therapeutically valuable, radical in one chemical compound by synthesis with a radical of similar therapeutic properties in another. In this instance, the excellent and rational pain-relieving properties of Amidopyrine have been chemically potentiated by the highly valued sedative properties of Diethylbarbituric Acid, while the hypnotic effect of the latter has been suppressed.

Peralga certainly appears to excel other analgesics in its pain-relieving action, especially in the promptness and endurance of the same. No injurious, or disagreeable by-effects, even on fairly continued use, have been observed. It is interesting, that in spite of the absence of hypnotic action, sleeplessness due to pain, irritation and congestion, is most favorably affected by the new synthetic. Its use is advocated in "headaches" of the habitual type, more especially those due to menstrual and climacteric disorders, nervous conditions, hysteria, mental exhaustion from overwork, migraine, etc., difficult and painful menstruation, "breast pains" of nursing mothers, traumatic pains from accidental injury, or after surgical operations, the pains of locomotor ataxia, acute forms of neuralgia, neuritis, sciatica, etc.

A complimentary original line of Peralga Tablets with literature, may be obtained by writing to Schering & Glatz, Inc., 150 Maiden Lane, New York.

Aids to Digestion

The salivary glands are not immune to the effects of constitutional conditions accompanying or following acute infections or other general disorders, nervous or glandular. They are not always up to par, yet the whole chain of digestive processes is linked with their proper functioning. Let the patient go beyond the capacity of the ptyalin-producing glands in his choice of foods or in his desire to "build up," and he starts a vicious circle of indigestion that may have more serious consequences than his former condition. Hence the call for a diastatic ferment that can be taken with the food to supplement the defective ptyalin secretion. Parke, Davis & Company have been supplying such a product for many years, and of late its diastatic activity has been increased 100 per cent. The name of this product is Taka-Diastase. The product itself is supplied in powder, tablet and capsule form, and as a liquid; also in combination with tonics and other digestive agents.

Samples of Taka-Diastase, together with literature, are offered by the manufacturers.

Coco-Quinine a Palatable Preparation

It is often difficult to administer quinine to infants and small children. Pills, tablets and capsules which disguise the intense bitterness of the remedy cannot be administered to infants and many small children. Many adults find difficulty in taking them. Furthermore, the absorption of the drug is more or less retarded when given in these forms.

Any experienced physician knows instances, especially in low fevers where quinine pills, tablets and even capsules have been passed by the patient unchanged.

In Coco-Quinine every one of these difficulties is eliminated. Each average teaspoonful, ninety-six minims, contains two grains of the true unchanged crystals of quinine sulphate suspended in a bland, chocolate-flavored, syrupy medium that masks the bitterness but does not retard absorption.

Infants and small children take Coco-Quinine cheerfully. In this form the dose of quinine sulphate may be large, yet so palatable, as one physician said, "A child will take it and lick the spoon."

Coco-Quinine will not disappoint when prompt, full quinine effects are desired.

Address request for further information and samples to Eli Lilly & Company, Indianapolis, Indiana. The drug trade supplies Coco-Quinine in pint and gallon packages.

Primary Stage.

Before the Wassermann reaction becomes positive a cure generally may be assured by intensive treatment. At least two courses of eight doses each of Arsphenamine and two courses of fifteen injections each of mercury should be given. Continued observation and control by the Wassermann test and lumbar puncture are necessary as in the treatment of later stages.

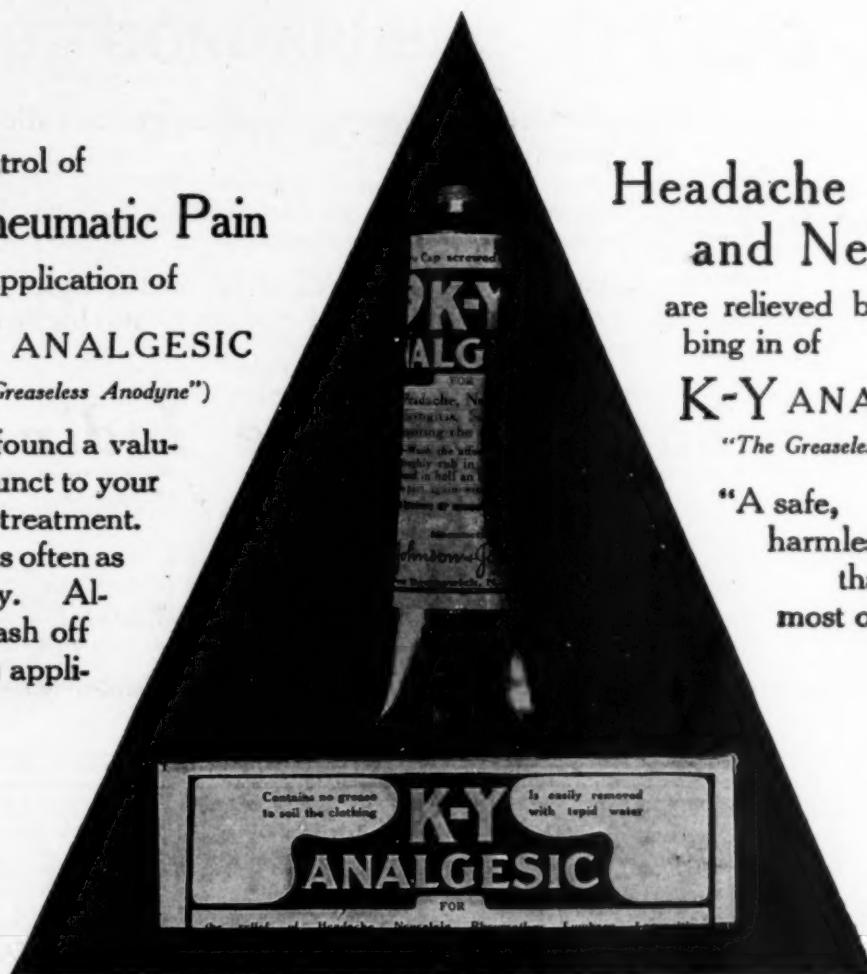
The control of
Rheumatic Pain
 by the application of
K-Y ANALGESIC
 ("The Greaseless Anodyne")

will be found a valuable adjunct to your internal treatment. Repeat as often as necessary. Always wash off previous application

Headache
 and Neuralgia
 are relieved by the rubbing in of
K-Y ANALGESIC
 "The Greaseless Anodyne"

"A safe,
 harmless way
 that works
 most of the time"

Samples on
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 this Journal



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 this Journal

In Your Bag
On Your Office Washstand
At the Patient's Home
 are three places where a bottle of
SYNOL SOAP

should always be kept, assuring yourself of a thorough cleansing of your hands before and after examinations. Synol Soap is antiseptic, cleansing and emollient.

Samples on request.

Effective
Surgical Lubrication
 is assured by the use of
K-Y LUBRICATING JELLY

Contains no grease, soluble in water, easily removed, does not stain the skin or clothing. Non-irritating, soothing and emollient.

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Johnson & Johnson
 NEW BRUNSWICK, N. J., U.S.A.

Not to use

a product that is effective in many diseases, might be called unfair to the patient.

Not to know

of its curative value is equally indefensible in the light of over 20 years of thorough clinical research and highest professional approval.

Burnham's Soluble Iodine

does not irritate the stomach and kidneys, though given in large doses and over continuous periods.

In auto-toxemia of whatever origin, and all septic processes its use means service of the most definite character.

Burnham Soluble Iodine Co.

Auburndale, Mass.

Spasmodic Summer Complaint.

When intestinal troubles are so prevalent accompanied by the usual manifestation, abdominal cramps, etc., nothing seems to relieve this distressing condition so promptly as Hayden's Viburnum Compound, a true and safe anti-spasmodic. Dose: Mix two teaspoonfuls in seven of BOILING water, slightly sweetened, and drink as hot as possible. Repeat every half hour until relief is obtained. Be sure the genuine H. V. C. only is administered.

A Timely Product

The time is at hand when almost every physician is called upon to relieve the discomfort and suffering occasioned by an ulcer, hemorrhoids, chafing, dermatitis and other morbid processes, the underlying cause of which is local inflammation. Local inflammation, heretofore, has been exceedingly hard to reach and to relieve by local applications. An investigation into the nature and action of local inflammation brought to light some interesting facts which show conclusively that the causes of local inflammation are to be found in a study of the electro-pathology of such conditions. This is an extremely interesting subject which has not received from the profession the attention it deserves. As a result of such a study, together with a vast amount of laboratory and clinical research, the Dionol Company, of Detroit, was enabled to place at the disposal of physicians a preparation, Dionol, whose remarkably satisfactory action and results have been proven in the treatment of conditions above referred to. Dionol contains no drugs. It is easy and simple of application. It is prompt and satisfactory in action and effect. Its use can be applied to so many different conditions, all of which can be traced back to the same cause, that it will well repay any physician, first, to make a clinical test of Dionol and then to keep it in mind, and at hand, for the many uses that will be found for it especially during the summer season.

Interesting literature dealing with the nature and action of Dionol, with a sample of the product, will be sent to any physician on request to the Dionol Company, Detroit, Mich.

A Vegetable Diastase

Digestive agents are for emergency use. It would be unfortunate indeed if the manufacturing chemist had to be depended upon permanently for any of the various enzymes that contribute to the conversion of the food into absorbable and assimilable

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In result, the most convincing and most practical proof of such claims made for the product lies in the clinical test, and a post card to the Dionol Company, Detroit, Michigan, will bring a supply of the product, together with literature, case reports, etc.

Problems of Treatment of Syphilis

Among other points discussed, Fabry and Wolff comment on the increasing prevalence of cases of jaundice among persons taking arsphenamin treatment, during periods when jaundice is uncommonly prevalent under other conditions. They make a point of treating the jaundice in syphilitics with more arsphenamin, and always found that the jaundice retrogressed under it. Their extensive experience in this line confirms the mono-recidiv character of jaundice. (Fabry and Wolff, *Med. Klin.*, January 22, 1922).

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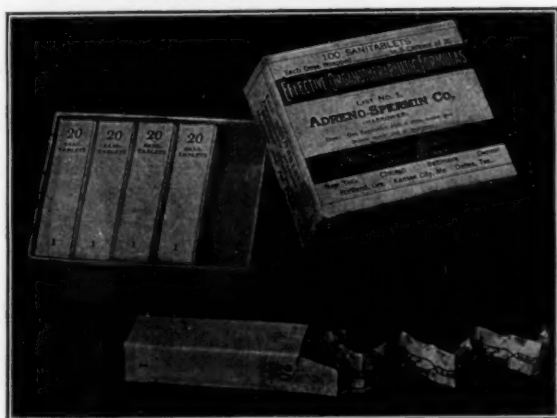


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The Prognosis of Syphilis.

The future of the syphilitic patient depends upon the knowledge and training of the physician first consulted. If familiar with modern diagnostic methods he will not neglect the employment of the darkfield microscope. A search for the treponema may be rewarded through an examination of the fluid aspirated from the communicating lymph nodes after failure to demonstrate the organism in the primary sore.

When diagnosis is made the physician should impress the patient with the necessity for vigorous and thorough treatment and endeavor to make him appreciate the seriousness of the disease.

Mercury by mouth in a desultory way is of little value in aborting the infection. Many patients receive insufficient treatment because physicians have not acquired accurate knowledge of the modern specific drugs and are ignorant of their proper administration. This criticism is as valid now with our greater knowledge as formerly before our modern studies of the disease. The fault today lies not only in the lack of training on the part of the physician, but also in his failure to impress the patient with the necessity of continuing treatment long after the symptoms have disappeared. All physicians treating syphilis should have a thorough knowledge of the pathology of the disease and its possibilities in the early as well as the late stages.

Present Opinion on Intraspinal Therapy in Neurosyphilis

Boudreau reviews the literature on intraspinal therapy in neurosyphilis, and concludes:

1. The central nervous system is early invaded by the treponema pallidum and without necessarily giving clinical signs.
2. Routine treatment removes danger in a large number of cases. This must be confirmed by negative findings in the cerebrospinal fluid.
3. For the cases which do not respond to routine treatment, the best treatment, so far devised, but not ideal, is by the Swift-Ellis-Ogilvie method. Various observers agree that clinical evidence shows it to be beneficial. The laboratory evidence is that in all but potential paresis the signs become negative if the treatment is thoroughly carried out.

The method of Byrnes (mercurized serum) is more dangerous and produces severe reactions.

The drainage method of Dercum is not without danger, is extremely painful, and the results obtained by observers are not in agreement. Bibliography attached.—(*Med. Rec.*, September 24, 1921.)

Progress in Anatomy, Physiology, and Pathology of Childhood.

J. B. Holmes reviews the literature—of syphilis he summarizes:

The subject of prenatal syphilis is considered by Kolmer (Kolmer, J. A., *Prenatal Syphilis*, with a plea for its Study and Prevention, *Am. J. Dis. Child.* 19: 344 (May) 1920). He cites Vedder's estimate that from 10 to 28 per cent of men from class of unskilled labor and the trade, varying in age from 18 to 40 years, are syphilitic, as well as 10 per cent. of men of better education. He also states that among presumably healthy young women the percentage of syphilitic infections fluctuates between 2 and 20 per cent., depending on age, marital condition, education and social status. The incidence in negroes is estimated to be at least double the figure for whites.

Probably one miscarriage out of every ten involves a syphilitic individual. According to Jeans (Jeans, P. C.: *Cerebral Involvement in Hereditary Syphilis*, *Am. J. Dis. Child.* 18: 173 (Sept.) 1919), at least 75 per cent. of the offspring of syphilitic families are infected. Thirty per cent. of the pregnancies terminate in death at or before term. Moreover, among syphilitic children the death rate is given about double the normal, i.e., 30 per cent. It is estimated that only about 17 per cent. of all pregnancies in syphilitic families result in living nonsyphilitic children that survive the period of infancy.

It is found that from 2 to 6 per cent. of hospital and dispensary children give a positive Wassermann reaction, with higher percentages among backward, mentally deficient and sick children. Kolmer says it would seem safe to assume 5 per cent. of syphilis in the infant population, so far as detectable.

Cerebral involvement in hereditary syphilis was considered by Jeans a year ago.—(*Amer. Jour. Dis. Child.*, July, 1921.)

Dupuytren's fracture, Dupuytren's hydrocele (bilocular hydrocele), etc., were named for Guillaume Dupuytren (1777-1835), French anatomist and surgeon, for years head surgeon at Hotel Dieu.—(*Med. Facts.*)

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Neurosyphilis.

The prognosis is not favorable in certain types of neurosyphilis. This statement applies especially to the degenerative stages of tabes and paresis. It is, however, possible to anticipate and arrest the progress of early active tabes and paresis. The majority of cases do not respond to treatment as ordinarily administered. Early cases of neurosyphilis which do not respond to intravenous treatment combined with mercury are generally cured by intraspinal treatment. Paresis and tabes result from neurosyphilis improperly treated in the early stages.

Congenital Syphilis.

With the old methods of treatment it was difficult to obtain a negative Wassermann reaction and even now the prognosis is not as favorable as in the acquired disease because of the severity of the infection, interference in the development of the growing tissues and the difficulty of carrying out the treatment.

In congenital syphilis with involvement of the central nervous system, because of the technical difficulties in treatment, the diagnosis is less favorable than in the similar type of syphilis in adults.

The Prognosis of Syphilis and Matrimony.

It is frequently necessary to give a prognosis because of contemplated matrimony. While a rigid standard cannot be maintained physicians should endeavor to obtain a negative Wassermann reaction in the blood for one or two years after adequate treatment, with a negative spinal fluid, before giving consent. The patient should remain under observation for several years. If the patient be a woman with a positive Wassermann reaction treatment should be begun early during pregnancy and continued throughout.

Marriage may be permissible in spite of a positive blood Wassermann if thorough treatment has been administered. In exceptional cases after prolonged treatment and after the expiration of at least five years from the time of infection and two years' freedom from all symptoms, a conditional consent to matrimony may be given.

The marriage of heredo-syphilitics with the disease still active is not desirable, even though the danger of transmission of infection to the third generation is negligible.

When Can a Patient Be Considered Non-Contagious?

A case may be considered temporarily non-contagious for his entourage after two weeks' vigorous treatment which includes four or five doses of arsphenamine. From a public health standpoint a patient is contagious in the first two or three weeks of his infection even with a negative Wassermann and therefore is a menace to his surroundings. With our modern hospital facilities it is only practicable to confine patients during the period of early infectivity.

Conclusion.

In our prognosis we must remember that untreated or imperfectly treated syphilis is essentially a relapsing disease. In thoroughly treated cases, however, the prognosis is favorable.

The Modern Criteria of Cure.

1. Adequate treatment as outlined.
2. A negative Wassermann reaction, for at least a year after cessation of all treatment, which continues negative after a provocative injection of arsphenamine.
3. A negative spinal fluid.
4. Negative findings in the cardio-vascular system. The early involvement of the cardio-vascular apparatus may be followed by changes in the heart and aorta with a negative Wassermann reaction.

Complement-Fixation Tests with Two Antigens.

Larkin compares results of a series of tests for syphilis with two antigens. Tests were made in laboratory of the Washington State Board of Health. Results are tabulated. Author concludes that two antigens (in these tests a crude alcoholic extract and a cholesterinized extract were used) form a valuable check one upon the other. Cholesterinized antigen gave a higher percentage of positive and doubtful reactions. Used in connection with the crude alcoholic antigen it is of great value in detecting slight reactions in tested cases where further treatment is indicated.—(*Am. Jour. Syph.*, July, 1921.)

Wagner's corpuscles and Wagner's spot (the germinal spot of an ovum) take their names from Rudolph Wagner (1805-1864), German anatomist and physiologist.—(*Med. Facts.*)

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144 CONGESTIVE DYSMENORRHEA.

materially affected; where it is changed, it is apt to be increased rather than diminished.

Our treatment of the causal conditions is to be carried out during the intermenstrual period, and the severity of the pain at the time of the flow must be controlled by the careful use of sedatives and such general measures as experience has found of use.

Rest in bed, for the first twelve or twenty-four hours, is of great importance where the pain is severe; where that is possible, it should always be insisted on; and, if faithfully carried out, will sometimes obviate the necessity of drugs. The effect of rest may be aided by the use of hot applications to the lower part of the abdomen. A rubber bottle filled with hot water, or spongio-piline wrung out in hot water, and sprinkled with a few drops of spirits of turpentine, or, in severe cases, a large flaxseed poultice, will not infrequently have a very soothing effect.

Hot, stimulating drinks are popularly supposed to make the flow easier and alleviate the pain. Gin is the most common remedy of this class, and probably does good by quickening the circulation generally, with perhaps a little more decided action upon the pelvic circulation.

Aromatics, such as ginger, red lavender, and peppermint, have their advocates. Hayden's Viburnum Compound has seemed to be the most effectual remedy of this class, given in hourly teaspoonful doses in hot water for five or six times.

These milder measures are mentioned first, because it is by all means wisdom to avoid in these cases, if possible, the use of stronger sedatives and anodynes.

Lymphocytosis as Diagnostic Sign of Chronic Periapical Dental Infection in Adults.

A statistical study of the leukocytes was made by Judson Daland, Philadelphia, in 100 cases of chronic periapical infection in adults; and in order to simplify the problem, all cases complicated by a focus of infection elsewhere were excluded, as different micro-organisms produce different effects on the leukocytes. Small cell lymphocytosis with a corresponding decrease in the polymorphonuclear cells is an important diagnostic sign of periapical infection, the value of which is increased when leukopenia co-exists. Lymphocytosis occurred only twice in 100 cases of chronic disease when no focal infection existed. Lymphocytosis indicates that toxins or streptococci, or both, are entering the blood. Lymphocytosis usually disappears in from five to eight weeks after the removal of all foci of infection. Lymphocytosis persisting after the removal of periapical infection usually indicates the presence of an undiscovered focus of infection. The organism that produces lymphocytosis is usually *Streptococcus hemolyticus* or *Streptococcus viridans*. Chronic periapical infection is usually nonpurulent.—(*J.A.M.A.*)

Pyrethrum Dermatitis.

The occurrence of occupational dermatoses among workers in the pyrethrum industry is discussed by Carey P. McCord, C. H. Kilker and Dorothy Minster, Cincinnati. An occupational dermatitis has been found to occur among the workers engaged in the manufacture of pyrethrum insect powder. Chemical analyses of pyrethrum have established various constituents having irritant properties. The lesions noted are, essentially, various forms of dermatitis venenata. They are of mild severity and quickly disappear under ordinary treatment. Re-exposure frequently leads to the reoccurrence of the disease. This dermatitis may be prevented by the introduction of trade processes that eliminate the necessity of exposure of workers to pyrethrum dust and powder.—(*J. A. M. A.*)

To Ward off Accidents in Arsphenamin Treatment.

These phenomena seem to be the manifestation of an upset in the colloidal balance in the blood serum with resulting flocculation. The most successful and harmless measure to ward

off this, Cheinisse says, is Sicard's preliminary injection of 30 c.c. of physiologic saline containing 0.6 or 0.75 gm. of sodium carbonate. The arsenical is injected at once afterward through the same needle. Even after an arsphenamin shock has developed an immediate injection of 10 c.c. of a 10 per cent. solution of sodium carbonate may abort it. Kopaczewski has found that addition of 3 or 4 drops of ether to the arsenical seemed to ward off all acute arsphenamin reactions in 27 patients thus treated. In 16 other patients the same effect was realized by dissolving the arsenical in a 20 per cent. solution of saccharose, but a slight chill followed in one case. In 60 other patients he injected 3 c.c. of ether subcutaneously ten minutes before the arsenical or 5 c.c. of camphorated oil half an hour before it. In 4 of this group there was a slight acute reaction.—(*Presse Médicale*, June 25, 1921.)

Salvarsanized Serum Treatment in Neurosyphilis

Samovici ascribes the "salvarsanized serum" technic to Marinisco, saying that the latter has been applying it for ten years. In more than 600 intraspinal injections of the kind in his service there has never been a mishap. Marinisco's experience has been that the best results can be anticipated in the mania and melancholia form of general paresis; 50 per cent. of his thirty cases showed improvement. When the mind is failing the outlook is less favorable. Tabes seems to be less amenable, but in incipient syphilitic paraplegia the improvement may put the patient on his feet again.

He advises to resume the treatment after two or three months' suspension and continue until the biologic reactions are negative. This could not be accomplished with intravenous injections alone, but with the intraspinal technic the lymphocytosis and Wassermann reaction may subside.—(*Rev. Méd.*, *2*, *1*, *Rosario*, July, 1921.)

Antiphlogistine combines all the good qualities of the old-time poultices with none of the objectionable features. It has a hygroscopic, osmotic action such as none of them possessed.—(*Med. Facts.*)

Corti's arches, tunnels, rods, etc., take their names from Corti, Italian scientist (1729-1813).—(*Med. Facts.*)



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Experimental Study of Wassermann Reaction in Children

De Villa and Ronch report extensive research at the children's clinic in Rome in charge of Luzzatti. Sixteen tables show the findings with various lipoids, human milk, serum, etc., used as amboceptor or antigen. It was apparently established that cholesterol or a mixture of lipoids can be used for the antigen in the Wassermann reaction. Human milk can also serve as a partial antigen, and human serum as a partial amboceptor. The serum from the colostrum of women, syphilitic or not, can substitute completely the syphilitic amboceptor, but can never serve as an antigen. The proportion of cholesterol in the blood has no influence on the Wassermann reaction. The final conclusion is that the antigens function by their lipid content, and that the amboceptors of syphilitic serums are of albuminoid proteic nature.—(*Polichinico*, Rome, February 6, 1922).

Arsphenamin by Intramuscular Injection

Pomaret reports the experimental chemical and other bases for his conviction that the intramuscular route is the preferable one for administration of the arsenicals in syphilis. (*M. Pomaret, Presse, Médicale, Paris, February 11, 1922; Journal A. M. A., April 8, 1922*).

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